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SEVENTEENTH ANNUAL REPORT

OF THE

Sanitary Commissioner for the Government of Bombay,

APPENDICES

00133389

Bombay
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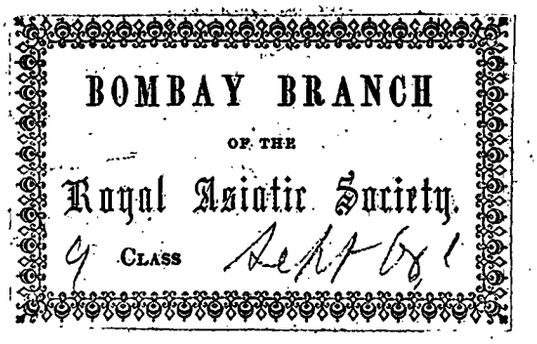

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SEVENTEENTH ANNUAL REPORT

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Sanitary Commissioner for the Government of Bombay,

1880,

WITH

APPENDICES.

133389

11/60/7

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ANNUAL SANITARY REPORT FOR 1880.

SECTION I.

GENERAL POPULATION AND VITAL STATISTICS.

Population.

1. The population for which the Registers of Births and Deaths have been received is, according to the Census of 1872, 8,482,388 males and 7,746,386 females: a total of 16,228,774. The area is 124,105 square miles, and the average population per square mile is 130·77 persons.

BIRTHS.

Births.

2. The registration of births amongst the civil population commenced in 1871.

Still-born.

3. From 1871 to 1873 the still-born were included in the number of births as well as in deaths; but subsequently they were shown in a separate column of the register.

Number of registered Births.

4. The number of births registered in 1880 was 370,873, and of this number 195,285 were male and 175,588 were female. In 1879 the registered total was 287,870, and by sexes the numbers were respectively 151,460 and 136,410. For the 9 years, from 1871 to 1879 inclusive, the mean annual registered total is 296,864. The total for 1880 is higher by 83,003 than that for 1879, and it exceeds by 74,009 the mean annual total for the last 9 years.

Birth-rate.

5. The general birth-rate for the year was 22·85 per 1,000 of population. For male births it was 23·02, and for female 22·67. The proportion of male to female children born was 111·22 to 100; last year it was 110·91, and the mean annual total for the last 9 years was 111·24. In every 100 births there were 52·66 males and 47·34 females, and for every 100 males there were 89·91 females. In 1879 there were 90·06 females for every 100 males, and the annual mean for the last 9 years was 89·89. The ratio of boys born alive has again exceeded that of girls. The following table shows, for the 10 years from 1871 to 1880 inclusive, the registered number of births, their ratio to population, and the proportion of males to females. The results for 1880 are by themselves to contrast with the corresponding means of the previous 9 years :—

Years.	Number of Births recorded.			Ratio per 1,000 of Population.			In every 100 born there were		For every 100 Male Births the Female were
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	
1871..	133,526	119,083	252,609*	19·73	20·12	17·84	52·86	47·14	89·18
1872..	140,644	126,299	266,943*	18·95	18·46	17·56	52·69	47·31	89·80
1873..	152,520	137,799	290,319*	17·97	17·78	17·88	52·54	47·46	90·35
1874..	174,966	157,842	332,808	20·69	20·44	20·57	52·57	47·43	90·21
1875..	178,392	161,937	340,329	21·15	20·97	21·06	52·49	47·51	90·52
1876..	181,872	163,612	345,484	21·50	21·18	21·35	52·64	47·36	89·96
1877..	164,262	147,399	311,661	19·40	19·06	19·26	52·75	47·25	89·73
1878..	128,848	114,405	243,253	15·25	14·81	15·04	52·97	47·03	88·79
1879..	151,460	136,410	287,870	17·86	17·60	17·74	52·61	47·39	90·06
Mean	156,332	140,532	296,864	18·43	18·14	18·29	52·66	47·34	89·89
1880..	195,285	175,588	370,873	23·02	22·67	22·85	52·66	47·34	89·91

* *N.B.*—Inclusive of Still-born.

Comparison between the number of births in each district for 1880 and that of the mean for the preceding 9 years.

6. The next table shows the number of births registered in each district from 1871 to 1879 inclusive. The total for 1880 is contrasted with the corresponding means for the previous 9 years.

Division.	No.	Districts.	Population according to Census of 1872.	Number of Births. 1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Total.	Mean Births for 9 years. Number.	Ratio per 1,000 of Population.	Births in 1880.	Ratio per 1,000 of Population.
Northern Deccan.	1	Khándesh	1,028,642	17,072	15,746	16,094	20,762	20,224	23,257	23,364	20,374	25,504	182,397	20,266	19·70	30,752	29·90
	2	Násik	734,386	13,916	13,037	14,306	18,628	19,933	19,097	17,670	15,431	20,501	152,519	16,947	23·08	22,992	31·31
	3	Ahmednagar	773,938	14,163	12,468	13,369	23,330	24,294	24,427	16,808	12,113	18,968	164,940	18,327	23·68	20,086	25·95
	4	Poona	907,235	15,172	16,461	18,441	19,906	21,214	19,617	15,152	11,740	15,139	152,842	16,982	18·72	18,199	20·06
	5	Sholápur	718,034	9,256	8,114	12,238	15,093	14,785	16,545	9,155	6,769	6,718	98,673	10,964	15·27	8,559	11·92
Southern Deccan.	6	Sátára	1,061,002	22,403	23,089	25,434	31,033	30,130	28,334	23,664	18,725	27,093	229,905	25,545	24·08	31,914	30·08
	7	Belgaum	338,750	16,747	17,609	19,845	24,912	30,257	27,563	2,2425	11,773	19,170	190,301	21,145	22·53	24,184	25·75
	8	Dhárwár	988,037	26,431	28,866	28,477	28,371	27,794	28,568	21,203	9,966	16,927	216,603	24,067	24·36	28,456	28·80
	9	Kaládgi	816,037	12,570	13,742	13,500	18,635	16,156	18,581	11,467	2,795	6,798	114,244	12,694	15·56	10,825	13·26
Konkan.	10	Kánara	398,406	10,297	11,408	12,307	12,547	11,677	11,728	11,731	8,057	9,582	99,334	11,037	27·70	12,873	32·31
	11	Ratnágiri	1,019,136	12,362	12,410	15,089	14,987	16,473	16,451	15,710	13,804	13,609	130,895	14,544	14·27	12,483	12·25
	12	Kolába	350,405	4,204	3,975	4,228	4,804	5,518	5,339	5,616	6,043	7,351	47,078	5,231	14·93	7,624	21·76
	13	Bombay	644,405	5,736	13,600	13,129	12,659	13,243	13,466	13,720	13,896	14,341	113,790	12,643	19·62	16,997	26·38
	14	Thána	847,424	15,427	14,818	17,318	16,725	18,803	16,773	18,804	16,464	20,442	155,574	17,286	20·40	23,461	27·68
Gujarát.	15	Surat	607,087	12,429	12,905	11,449	13,961	15,342	13,583	15,052	14,965	13,063	122,749	13,639	22·57	15,897	26·19
	16	Broach	350,322	4,847	4,425	4,553	5,721	5,749	5,688	7,275	6,271	4,177	48,706	5,412	15·45	5,861	16·73
	17	Kaira	782,733	13,803	14,012	15,622	15,893	16,124	18,158	19,995	15,728	17,287	146,622	16,291	20·81	24,415	31·19
	18	Panch Mahals	240,743	1,997	2,923	3,089	3,329	4,623	4,615	5,618	4,464	2,468	33,626	3,736	15·52	7,970	33·10
	19	Ahmedabad	829,637	11,440	13,886	15,467	15,909	15,504	16,623	18,822	16,225	15,321	139,197	15,466	18·64	17,834	21·49
Sind.	20	Karáchi	423,495	2,070	3,012	2,724	3,652	3,504	4,533	3,793	3,332	3,390	30,010	3,334	7·87	7,907	18·67
	21	Hyderabad	721,947	5,784	5,002	3,814	4,506	3,893	5,158	5.249	5,078	3,950	42,434	4,715	6·53	7,650	10·60
	22	Thar and Párkar ..	180,761	163	108	316	886	734	1,298	3,345	3,439	1,451	11,740	1,304	7·21	4,689	25·94
	23	Shikárpur	776,227	4,009	5,133	4,217	5,152	4,210	5,354	5,301	5,130	3,882	42,388	4,710	6·07	8,511	10·96
	24	Upper Sind Frontier ..	89,985	311	194	293	907	645	728	722	671	738	5,209	579	6·43	734	8·16
		Total ..	16,228,774	252,609	266,943	290,319	332,808	340,829	345,484	311,661	243,253	287,870	2,671,776	296,864	18·29	370,873	22·85

ABSTRACT.

1	Northern Deccan ..	4,162,235	69,579	65,826	79,448	97,719	100,450	102,943	82,149	66,427	86,830	751,371	83,486	20·06	100,588	24·17
2	Southern Deccan ..	3,803,826	78,151	83,306	87,256	102,951	104,337	103,046	78,759	43,259	69,988	751,053	83,451	21·94	95,379	25·07
3	Konkan	3,259,776	48,026	56,211	62,071	61,722	65,714	63,757	65,581	58,264	65,325	546,671	60,741	18·61	73,438	22·53
4	Gujarát	2,810,522	44,516	48,151	50,180	55,313	57,342	58,667	66,762	57,653	52,316	490,900	54,544	19·41	71,977	25·60
5	Sind	2,192,415	12,337	13,449	11,364	15,103	12,986	17,071	18,410	17,650	13,411	131,781	14,642	6·68	29,491	13·45

N.B.—Still-born were included from 1871 to 1873.

Improvement in the registration of births.

7. It will be seen from the above table that there has been a considerable improvement in the registration of births in this year. In 21 out of 24 districts the births registered were more than the annual mean for the last 9 years. The districts where they were below the mean were Sholápur, Kaládgi and Ratnágiri, the respective numbers being 8,559 against 10,964, 10,825 against 12,694, and 12,483 against 14,544. By divisions, too, the numbers registered are higher in each this year than the annual mean for the preceding 9 years.

Diagram showing the number of births by districts.

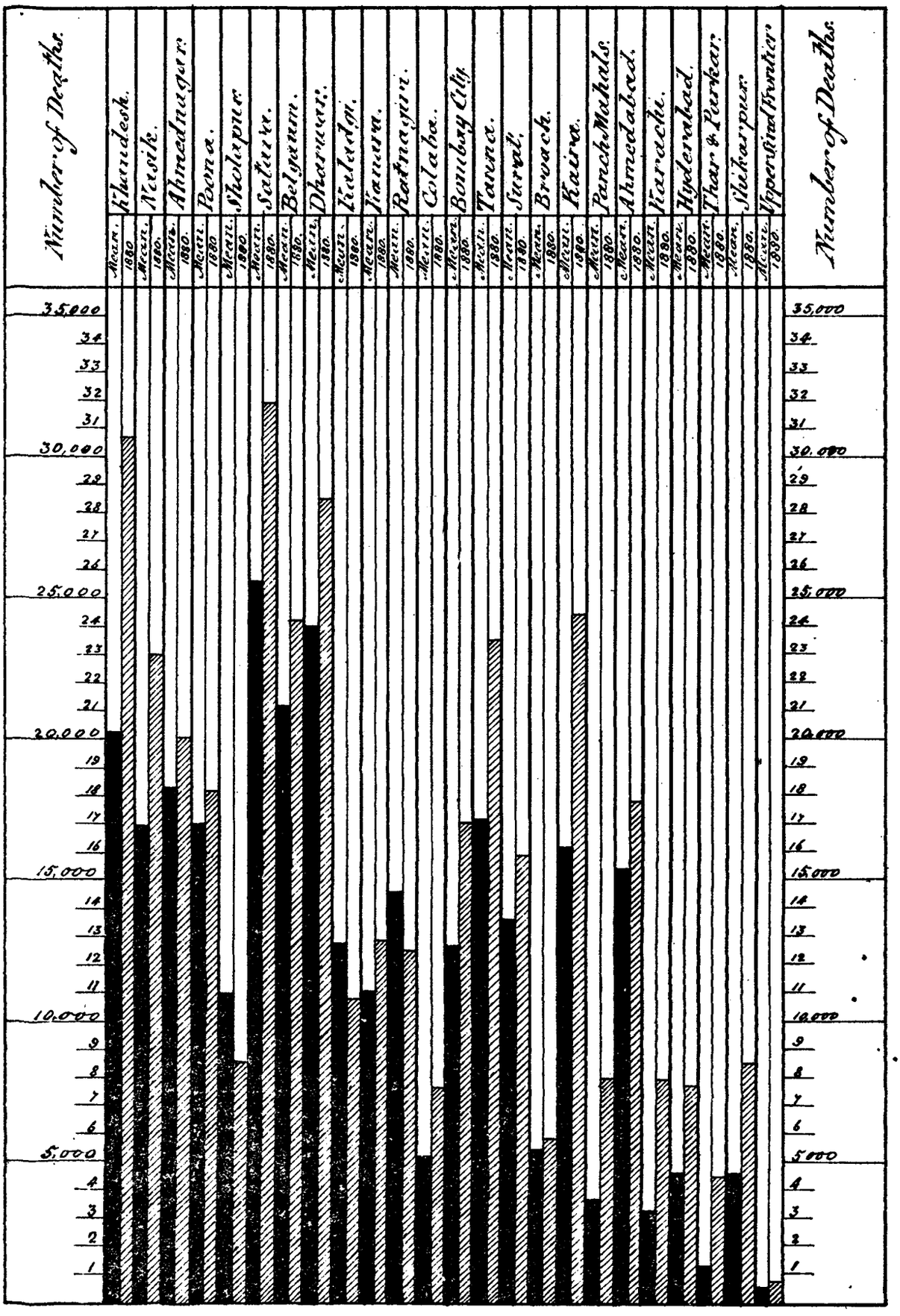
8. In the diagram on the opposite page there is given for each district the annual mean total of births for the 9 years ending with 1879 and the number registered in 1880.

Birth-rate in districts.

9. In the subjoined table there are given the number of births registered in each district, and their ratios per 1,000 of population; and numbers and ratios are contrasted with those for 1879. The highest rate (33·10) is for the Panch Mahals, and the lowest (8·16) for the Upper Sind Frontier. In 1879 the highest rate (27·92) was for the Násik District, and the lowest (5·00) for Shikárpur. It will be seen that in the Ratnágiri District, in the Konkan and in the Upper Sind Frontier District the recorded rates for the year are below those for 1879—12·25 against 13·36 and 8·16 against 8·20 respectively. In all other districts the ratios are higher. The most notable instances are 33·10 against 10·25 for the Panch Mahals, 25·94 against 8·02 for Thar and Párkar, and 18·67 against 8·00 for Karáchi:—

Diagram

showing for each District the total number of births registered in 1880 compared with the mean for the preceding 9 years.



N.B — Mean — Black

1880 — Hatched

Govt. Photozinco Office, Poona, 1881

No.	Registration Districts.	Number of Births registered.		Ratio per 1,000 of Population.	
		1880.	1879.	1880.	1879.
1	Panch Mahâls	7,970	2,468	33·10	10·25
2	Kánara	12,873	9,582	32·31	24·05
3	Násik	22,992	20,501	31·31	27·92
4	Kaira	24,415	17,287	31·19	22·08
5	Sátára	31,914	27,093	30·08	25·54
6	Khándesh	30,752	25,504	29·90	19.81
7	Dhárwár	28,456	16,927	28·80	17·13
8	Thána...	23,461	20,442	27·68	24·14
9	Bombay City	16,997	14,341	26·38	22·25
10	Surat	15,897	13,063	26·19	21·51
11	Ahmednagar	20,086	18,968	25·95	24·51
12	Thar and Párkar	4,689	1,451	25·94	8·02
13	Belgaum	24,184	19,170	25·75	20·42
14	Kolába	7,624	7,351	21·76	20·98
15	Ahmedabad	17,834	15,321	21·49	18·46
16	Poona...	18,199	15,139	20·06	16·70
17	Karáchi	7,907	3,390	18·67	8·00
18	Broach	5,861	4,177	16·73	11·92
19	Kaládgi	10,825	6,798	13·26	8·33
20	Ratnágiri*	12,483	13,609	12·25	13·36
21	Sholápur	8,559	6,718	11·92	9·35
22	Shikárpur	8,511	3,882	10·96	5·00
23	Hyderabad	7,650	3,950	10·60	5·47
24	Upper Sind Frontier*	734	738	8·16	8·20
	Total for the year ...	370,873	2,87,870	22·85	17·74

* Birth-rates for 1880 lower than for 1879 in two Districts.

Birth and death-rates compared by districts.

10. It will be seen from the following table that the mean annual birth-rate for the last 9 years ending with 1879 is in each district below the mean annual death-rate for the same period. In this year the birth-rates are lower than the death-rates in Sholápur, Kaládgi, Ratnágiri, Bombay City, Broach and Ahmedabad. In all the other districts the birth-rates are higher than the death-rates: at Násik they are respectively 31·31 and 19·52, at Sátára 30·08 and 19·65, in the Panch Mahâls 33·10 and 15·77, and at Thar and Párkar 25·94 and 12·79. For the whole Presidency the birth-rate is also higher than the death-rate, being 22·85 and 20·25 respectively: *this occurred once before in 1874.*

Districts.	Population according to Census of 1872.	Births.			Deaths.			Births.		Deaths.	
		Total from 1871 to 1879.	Mean for 9 years.	Ratio per 1,000 of Population.	Total from 1871 to 1879.	Mean for 9 years.	Ratio per 1,000 of Population.	In 1880.	Ratio per 1,000 of Population.	In 1880.	Ratio per 1,000 of Population.
Khándesh...	1,028,642	182,397	20,266	19·70	200,760	22,307	21·69	30,752	29·90	21,077	20·49
Násik	734,386	152,519	16,947	23·08	161,240	17,916	24·39	22,992	31·31	14,334	19·52
Ahmednagar	773,938	164,940	18,327	23·68	176,214	19,579	25·30	20,086	25·95	14,102	18·22
Poona	907,235	152,842	16,982	18·72	190,916	21,213	23·38	18,199	20·06	14,094	15·53
Sholápur	718,034	98,673	10,964	15·27	163,874	18,208	25·36	8,559	11·92	10,942	15·24
Sátára	1,061,002	229,905	25,545	24·08	250,771	27,864	26·26	31,914	30·08	20,844	19·65
Belgaum	938,750	190,301	21,145	22·53	272,244	30,249	32·22	24,184	25·75	23,498	25·03
Dhárwár	988,037	216,603	24,067	24·36	303,703	33,745	34·35	28,456	28·80	21,264	21·52
Kaládgi	816,037	114,244	12,694	15·56	217,216	24,135	29·57	10,825	13·26	14,195	17.39
Kánara	398,406	98,334	11,037	27·70	118,197	13,133	32·96	12,873	32·31	11,871	29·79
Ratnágiri	1,019,136	130,895	14,544	14·27	150,513	16,724	16·41	12,483	12·25	17,232	16·91
Kolába	350,405	47,078	5,231	14·93	47,395	5,266	15·02	7,624	21·76	6,427	18·34
Bombay City	644,405	113,790	12,643	19·62	188,687	20,965	32·53	16,997	26 38	20,873	32·39
Thána	847,424	155,574	17,286	20·40	168,030	18,670	22·03	23,461	27·68	17,131	20·22
Surat	607,087	122,749	13,639	22·57	143,493	15,944	26·26	15,897	26·19	15,425	25·40
Broach	350,322	48,706	5,412	15·45	83,288	9,254	26·41	5,861	16·73	10,326	29·47
Kaira	782,733	146,622	16,291	20·81	188,152	20,906	26·71	24,415	31·19	23,570	30·11
Panch Mahâls	240,743	33,626	3,736	15·52	48,062	5,340	22·18	7,970	33·10	3,796	15·77
Ahmedabad	829,637	139,197	15,466	18·64	211,192	23,466	28·28	17,834	21·49	24,539	29·58
Karáchi	423,495	30,010	3,334	7·87	55,486	6,165	14·56	7,907	18·67	6,353	15·00
Hyderabad	721,947	42,434	4,715	6·53	73,029	8,114	11·24	9,650	10·60	7,354	10·19
Thar and Párkar	180,761	11,740	1,304	7·21	14,492	1,610	8·91	4,689	25·94	2,311	12·79
Shikárpur...	776,227	42,388	4,710	6·07	74,565	8,285	10·67	8,511	10·96	6,490	8·36
Upper Sind Frontier	89,985	5,209	579	6·43	7,067	785	8·72	734	8·16	625	6·95
Total ...	16,228,774	2,671,776	296,864	18·29	3,508,586	389,343	24·02	370,873	22·85	328,673	20·25

Diagram showing the number of births and deaths in each year from 1871 to 1880.

11. The accompanying diagram will show the comparison between births and deaths in each year from 1871 to 1879 and the annual mean for that period contrasted with 1880.

Birth-rate in principal towns.

12. The subjoined list of 24 principal towns gives their enumerated population by the Census of 1872, and it may be assumed that, since that enumeration, the numbers have increased very considerably: there are also given the birth and death ratios per 1,000 of population. :—

No.	Names of Towns.	Population.	1880.		1879.	
			Birth-rate per 1,000.	Death-rate per 1,000.	Birth-rate per 1,000.	Death-rate per 1,000.
1	Ahmedabad	116,873	35·98	46·46	41·31	70·61
2	Karáchi	53,526	35·09	23·33	12·59	30·43
3	Kárwár	13,263	34·08	20·73	25·41	22·84
4	Hyderabad	35,272	31·61	25·71	26·45	40·71
5	Shikárpur	38,107	31·07	15·98	19·21	23·46
6	Sátára	24,484	29·08	23·48	24·10	20·00
7	Bombay City	644,405	26·38	32·39	22·25	34·60
8	Násik	22,436	24·69	34·81	20·46	35·00
9	Dhárwár	27,136	22·96	20·45	13·26	23·80
10	Belgaum	26,947	21·34	26·79	20·26	31·80
11	Jacobabad	5,205	21·13	34·39	26·13	46·11
12	Ahmednagar	32,841	20·52	32·28	15·13	31·59
13	Thána	14,299	20·14	17·13	20·28	22·17
14	Alíbág...	5,473	17·91	20·10	9·87	31·79
15	Godhra	10,641	17·19	22·74	5·17	28·47
16	Kaládgi	6,592	16·99	21·69	5·31	43·46
17	Surat	107,149	16·60	23 21	12·63	21·65
18	Kaira	12,681	16·48	25·94	15·77	29·41
19	Umarkot	3,999	14·25	18·00	14·76	18·50
20	Poona City	90,436	12·69	23·23	4·98	17·06
21	Sholápur	53,403	11·98	39·92	9·87	126·76
22	Dhulia...	12,489	11·69	22·42	7·29	22·66
23	Vengurla	14,996	8·14	12·74	8·07	17·60
24	Broach	36,932	7·69	17·65	11·05	28·18

13. It will be seen that in 7 out of the 24 principal towns the birth-rate exceeds the death-rate. In 1879 it exceeded in 2 only. In the other 17 towns the death-rate is higher. It must be observed, however, that the birth-rate for this year is higher in 19 towns than that for 1879. The low birth-rates are: at Ahmedabad City 35·98 against 41·31, Jacobabad town 21·13 against 26·13, Thána 20·14 against 20·28, Umarkot 14·25 against 14·76, and Broach 7·69 against 11·05. In last year's report I spoke of the utter worthlessness of this return; but, as it was then, so it is now, grossly incorrect, grossly inconsistent. It is as disappointing, too, as it was last year, to find that, with regard to its birth registration, the City of Bombay is so behindhand. Improvement may, however, be looked for, as an additional establishment has been sanctioned by the Corporation.

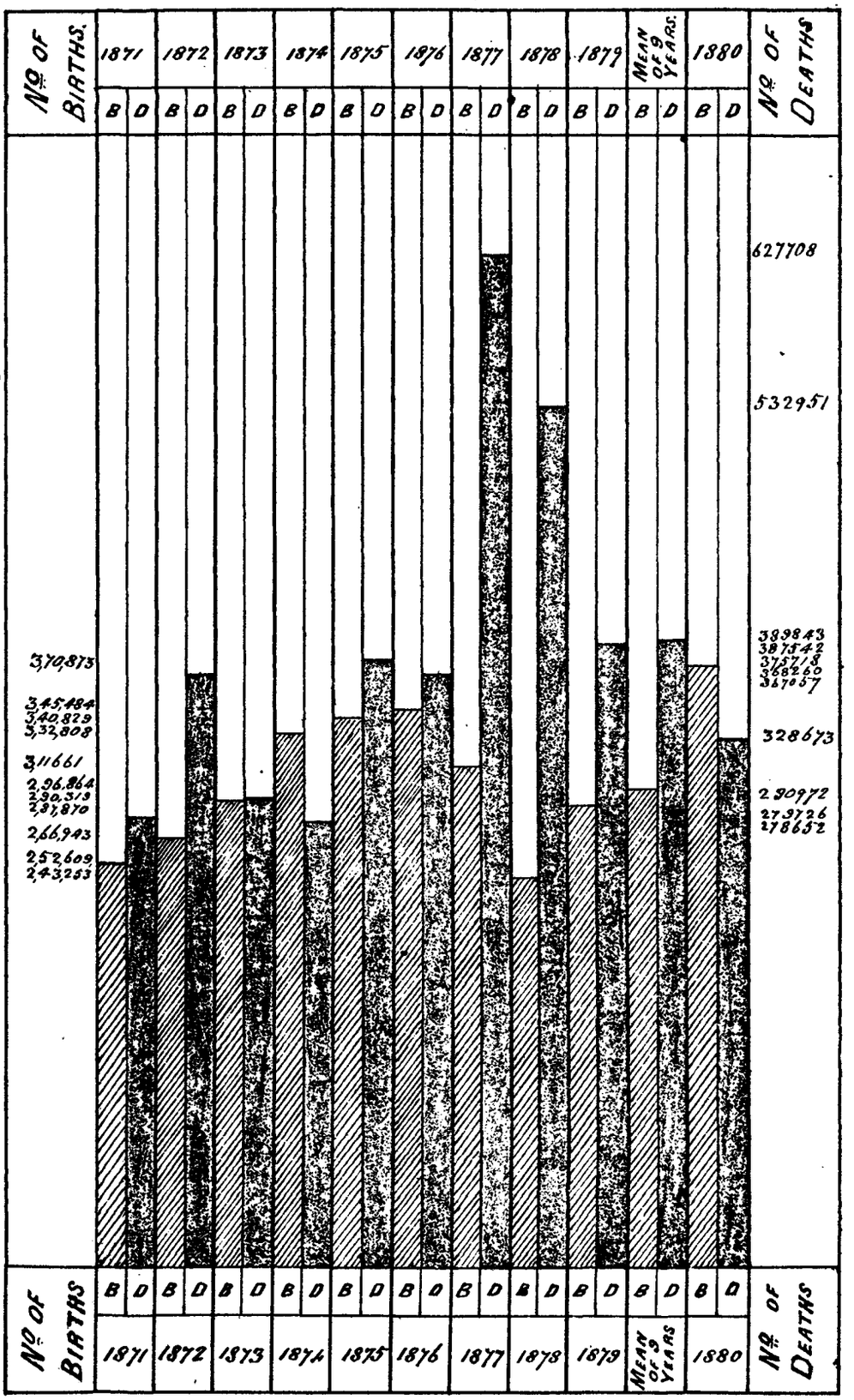
14. In the Cantonment of Málegaon the birth and death-rates were respectively 34·90 and 29·25. In every other cantonments the death-rate was higher. At Devláli it was 21·25 against 4·47, for Ahmednagar they were respectively 22·34 and 13·06, for Poona and Kirkee 18·49 and 5·06, for Belgaum 27·01 and 5·44, and for Ahmedabad 35·05 and 21·24.

Births by months.

15. The following table gives the births by months for each year since 1871. In this year the greatest number (36,909) occurred in November, and the least (24,443) in February. In 1879 the greatest number (31,301) was in October, and the least (16,316) in February. The annual mean for the 9 years ending with 1879 shows that the greatest number (27,519) was registered in July, and the least (20,135) in February.

Diagram

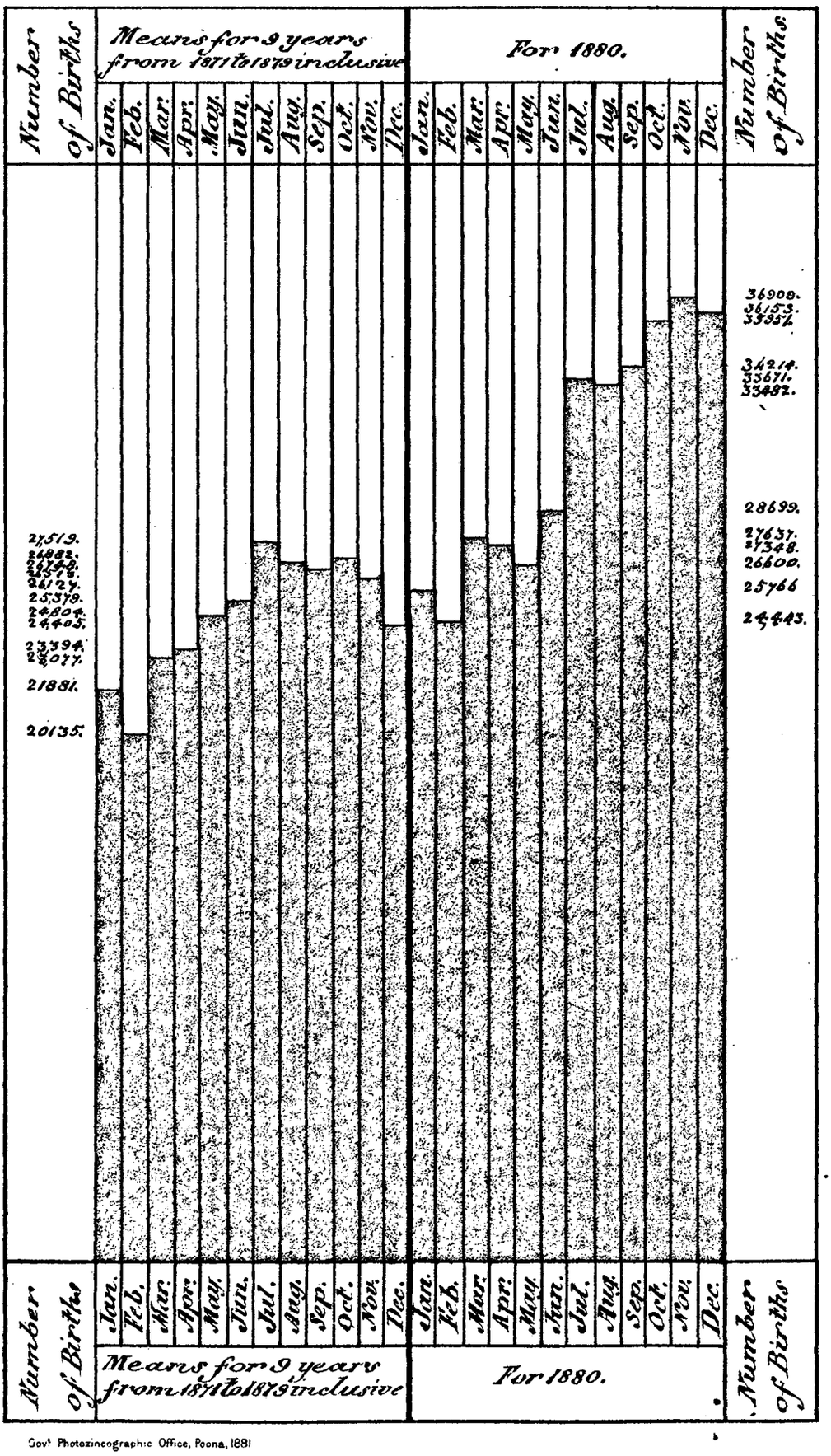
showing births and deaths from 1871 to 1879 inclusive, and for 1880, together with the annual mean for the 9 years.



Photozincographed, Govt Office, Poona, 1881.

Diagram

showing the number of births in each month in 1880 contrasted with the mean in each month for the preceding 9 years.



Govt Photozincographic Office, Poona, 1881

Years.	Births.												Remarks.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	
1871	15,834	15,605	19,619	20,417	22,109	22,780	24,480	22,585	22,442	23,362	22,872	21,004	252,609	Inclusive of still-born.
1872	21,962	21,692	20,310	21,702	22,283	23,398	24,017	23,251	22,415	22,103	22,508	21,302	266,943	
1873	20,915	17,884	20,990	21,017	23,453	24,700	27,714	26,440	26,481	27,916	27,153	25,656	290,319	
1874	24,229	21,495	24,631	24,712	26,643	29,758	30,888	31,892	30,353	31,748	29,349	27,200	332,808	
1875	26,262	24,469	29,884	29,852	29,914	29,052	31,262	29,406	28,438	27,455	28,583	26,312	340,829	
1876	24,304	23,914	28,007	27,482	28,645	30,106	33,325	31,338	31,220	30,392	29,729	27,022	345,434	
1877	24,386	22,446	27,622	27,756	30,499	28,826	29,490	25,895	24,924	24,480	23,311	22,026	311,661	
1878	19,835	17,486	18,302	18,084	18,935	17,539	20,938	22,412	22,375	23,179	22,774	21,394	243,253	
1879	19,259	16,316	18,332	19,525	20,755	22,248	25,560	27,515	29,968	31,301	29,361	27,730	287,870	
Total ..	196,926	181,217	207,697	210,547	223,236	228,407	247,674	240,734	238,616	241,936	235,140	219,646	2,671,776	
Mean for 9 years.	21,881	20,135	23,077	23,394	24,804	25,379	27,519	26,748	26,513	26,882	26,127	24,405	296,864	
Ratio per 1,000 of Population.. ..	1·35	1·24	1·42	1·44	1·53	1·57	1·69	1·65	1·63	1·66	1·61	1·50	18·29	
1880	25,766	24,443	27,637	27,348	26,600	28,699	33,671	33,482	34,214	35,951	36,909	36,153	370,873	
Ratio per 1,000 of Population.. ..	1·59	1·51	1·70	1·69	1·64	1·77	2·07	2·06	2·11	2·22	2·28	2·21	22·85	

Diagram showing births by months.

16. The accompanying diagram shows the number of births registered by months in 1880 contrasted with the mean for the preceding 9 years.

DEATHS.

Deaths.

17. Amongst the civil population, the total of deaths registered in 1880 was 328,673. By sexes there were 176,817 males and 151,856 females. In 1879 the registered number was 387,542, and the mean annual number for the 14 years ending with 1879 was 324,777.

Death-rate.

18. The computed death-rate per 1,000 of population was 20·25, and for 1879 it was 23·88. For the 14 years ending with 1879 the average was 20·01, so for 1880 it was less by 3·63 than for 1879, and only higher by 0·24 than the mean for the preceding 14 years.

Male and female death-rates.

19. The ratio of males dying to males living was 20·85, and of females dying to females living it was 19·60. In 1879 these ratios were respectively 24·41 and 23·29. For every 100 females who died, there died 116·44 males. These proportions vary in several districts, and chiefly in Sind, thus—

Khándesh	123·22	males to	100 females.
Sholápur	117·49	„	„ „
Broach	119·38	„	„ „
Kaira	118·89	„	„ „
Ahmedabad	120·73	„	„ „
Karáchi	146·71	„	„ „
Hyderabad...	142·86	„	„ „
Thar and Párkar	124·37	„	„ „
Shikárpur	139·31	„	„ „
Upper Sind Frontier	188·01	„	„ „

Deaths by divisions.

20. The following table shows, for each division of the Presidency, the enumerated population, the deaths for the year, and their ratios per 1,000 of population. The highest ratio is for Gujarát, and the lowest for Sind; but in all the divisions it is lower than in 1879:—

Divisions.	Population by Census of 1872.			Number of Deaths.			Ratio per 1,000 of Population.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Northern Deccan ..	2,138,826	2,023,409	4,162,235	40,144	34,405	74,549	18·77	17·00	17·91
Southern do. ..	1,941,920	1,861,906	3,803,826	42,452	37,349	79,801	21·87	20·06	20·98
Konkan..	1,714,472	1,545,304	3,259,776	38,935	34,599	73,534	22·70	22·39	22·56
Gujarát..	1,470,962	1,339,560	2,810,522	41,894	35,822	77,656	28·44	26·74	27·63
Sind	1,216,208	976,207	2,192,415	13,452	9,681	23,133	11·06	9·92	10·55
Total ..	8,482,388	7,746,386	16,228,774	176,817	151,856	328,673	20·85	19·60	20·25

Diagram showing deaths from 1866 to 1880.

21. The total number of deaths in each year from 1866 to 1879 inclusive is shown in the diagram on the opposite page, and the mean for that period is so placed as to contrast with the number of deaths for 1880.

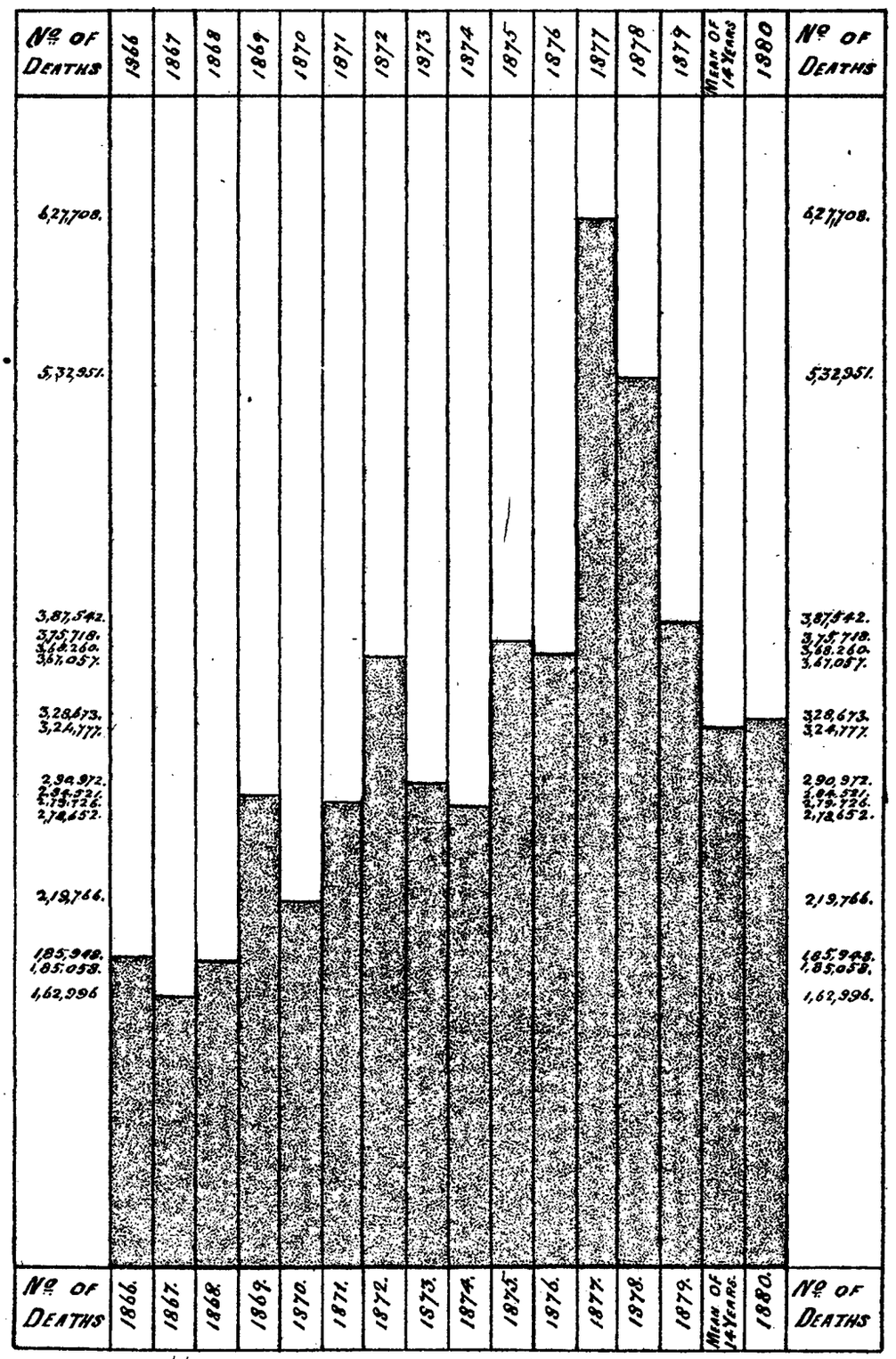
Deaths by Districts.

22. The deaths by districts, and their ratios per 1,000 of population, are here shown in sequence, and it will be seen that they range from 32·39 in Bombay City to 6·95 in the Upper Sind Frontier. In 1879 the maximum ratio (38·73) was in the Broach District, and the minimum (9·61) in the Upper Sind Frontier. This year the highest number of deaths (24,539) took place in the Ahmedabad District, and the lowest (625) in the Upper Sind Frontier :—

Districts.	Number of Deaths.			Ratio per 1,000 of Population.		
	Males.	Females.	Total.	Males.	Females.	Total.
Bombay City	10,973	9,900	20,873	27·45	40·46	32·39
Kaira	12,802	10,768	23,570	30·54	29·61	30·11
Kánara	6,144	5,727	11,871	29·76	29·83	29·79
Ahmedabad	13,422	11,117	24,539	30·59	28·44	29·58
Broach	5,619	4,707	10,326	30·78	28·05	29·47
Surat	8,000	7,425	15,425	26·29	24·51	25·40
Belgaum	12,573	10,925	23,498	26·25	23·76	25·03
Dhárwár	11,233	10,031	21,264	22·20	20·81	21·52
Khándesh	11,635	9,442	21,077	21·93	18·96	20·49
Thána	9,186	7,945	17,131	20·92	19·46	20·22
Sátára	11,042	9,802	20,844	20·47	18·79	19·65
Násik	7,659	6,675	14,334	20·32	18·67	19·52
Kolába	3,421	3,006	6,427	19·21	17·44	18·34
Ahmednagar	7,481	6,621	14,102	18·92	17·49	18·22
Kaládgi	7,604	6,591	14,195	18·21	16·54	17·39
Ratnágiri	9,211	8,021	17,232	18·76	15·19	16·91
Panch Maháls	1,991	1,805	3,796	15·76	15·77	15·77
Poona	7,458	6,636	14,094	15·98	15·07	15·53
Sholápur	5,911	5,031	10,942	16·01	14·43	15·24
Karáchi	3,659	2,494	6,353	15·24	13·60	15·00
Thar and Párkar	1,281	1,030	2,311	12·40	13·29	12·79
Hyderabad	4,326	3,028	7,354	10·88	9·34	10·19
Shikárpur	3,778	2,712	6,490	8·90	7·71	8·36
Upper Sind Frontier ...	408	217	625	8·08	5·49	6·95
Total ...	176,817	151,856	328,673	20·85	19·60	20·25

Diagram

showing the total number of deaths from 1866 to 1879 inclusive and the mean for this period contrasted with the total for 1880.



Photozincographed Govt Office Poona, 1881

23. Except for Bombay City and the Thar and Párkar District, the death-rate for males everywhere exceeds that for females: in 1879 it was the same in the City of Bombay and in Thar and Párkar.

24. In the next table the district ratios of mortality per 1,000 of population are given by months, and they are contrasted with those for 1879:—

Death-rates by months.

Districts.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Khándesh	1879 ..	1·46	1·10	1·13	1·29	1·78	1·07	1·34	1·81	1·63	1·69	1·88	1·73	17·88
	1880 ..	1·43	1·40	1·87	1·61	1·62	1·44	1·68	2·06	1·83	1·64	2·08	1·81	20·49
Násik	1879 ..	2·28	1·43	1·37	1·40	1·42	1·24	1·77	1·99	1·61	1·58	1·70	1·84	19·68
	1880 ..	1·46	1·43	1·47	1·36	1·14	1·43	1·82	1·78	1·48	1·69	2·44	1·95	19·52
Ahmednagar	1879 ..	1·73	1·34	1·23	1·46	1·36	1·54	2·18	2·82	2·17	1·73	1·78	2·04	21·36
	1880 ..	1·70	1·28	1·40	1·35	1·26	1·51	1·79	1·80	1·62	1·44	1·59	1·50	18·23
Poona	1879 ..	1·41	1·00	0·95	0·96	0·98	0·85	1·14	1 35	1·23	1·18	1·24	1·55	13·82
	1880 ..	1·72	1·07	1·21	1·20	1·12	1·05	1·31	1·41	1·28	1·12	1·43	1·61	15·53
Sholápur	1879 ..	2·88	1·67	1·40	1·59	1·68	2·13	4·35	4·33	3·58	3·59	2·76	2·30	32·31
	1880 ..	1·64	1·21	1·15	1·07	1·20	1·04	1·37	1·46	1·27	1·07	1·18	1·55	15·24
Sátára	1879 ..	1·76	1·38	1·40	1·57	1·60	1·57	1·65	2·09	1·91	1·70	1·64	1·79	20·01
	1880 ..	1·77	1·56	1·65	1·47	1·50	1·53	1·95	1·92	1·72	1·52	1·54	1·55	19·65
Belgaum	1879 ..	2·65	2·40	2·35	2·52	2·48	2·20	2·28	2·52	2·38	2·05	2·33	2·25	28·40
	1880 ..	2·42	2·30	2·72	2·20	2·23	2·24	2·33	2·19	1·86	1·55	1·45	1·52	25·03
Dhárwár	1879 ..	3·11	2·42	2·01	1·91	2·01	2·00	1·94	2·00	1·85	1·69	2·02	2·10	24·85
	1880 ..	2·11	1·72	1·98	1·54	1·79	1·56	2·01	2·12	1·88	1·51	1·53	1·81	21·52
Kaládgi	1879 ..	1·99	1·41	1·55	1·76	1·54	1·91	2·32	2·88	2·74	2·30	1·59	1·51	23·52
	1880 ..	1·70	1·27	1·43	1·28	1·55	1·59	1·70	1·64	1·36	1·12	1·15	1·56	17·39
Kánara	1879 ..	3·69	3·39	3·38	2·62	2·26	2·43	2·58	2·75	2·77	2·50	2·60	3·30	34·22
	1880 ..	3·38	2·92	2·82	2·23	2·03	2·01	2·55	2·39	2·25	2·32	2·30	2·60	29·79
Ratnágiri	1879 ..	2·04	2·22	2·28	2·17	2·16	2·37	3·31	3·18	2·37	1·70	1·68	1·74	27·22
	1880 ..	1·74	1·54	1·59	1·36	1·26	1·19	1·75	1·53	1·31	1·17	1·17	1·27	16·91
Kolába	1879 ..	1·86	1·24	1·45	1·09	1·11	1·16	1·52	1·93	1·72	1·65	1·67	1·84	18·24
	1880 ..	1·75	1·57	1·68	1·49	1·18	1·27	1·33	1·56	1·65	1·44	1·51	1·93	18·34
Bombay City	1879 ..	3·10	2·86	3·00	2·79	3·12	2·35	2·04	3·13	2·85	2·79	2·84	3·07	34·60
	1880 ..	2·96	2·98	3·51	3·10	2·82	2·33	2·27	2·44	2·52	2·62	2·80	2·54	32·39
Thána	1879 ..	1·77	1·45	1·63	1·39	1·37	1·51	1·51	0·88	1·79	1·75	2·30	2·30	20·66
	1880 ..	2·51	2·32	2·04	1·82	1·41	1·17	1·43	1·50	1·30	1·31	1·71	1·72	20·22
Surat	1879 ..	2·09	1·77	1·79	1·79	1·96	1·76	2·08	2·51	2·30	3·29	4·01	3·25	29·17
	1880 ..	2·38	2·22	2·58	1·94	1·84	1·45	1·80	2·03	1·92	1·98	2·65	2·56	25·40
Broach	1879 ..	3·28	2·31	2·15	1·53	1·38	1·18	1·42	2·30	3·46	5·98	8·55	5·21	38·73
	1880 ..	3·50	2·68	2·56	1·79	1·80	1·49	1·52	2·01	2·27	2·89	3·59	3·36	29·47
Kaira	1879 ..	2·05	1·82	1·70	1·50	1·87	1·64	2·15	2·81	4·39	7·17	6·70	3·52	37·32
	1880 ..	2·49	2·67	2·93	2·46	2·28	1·86	1·89	2·48	2·57	2·82	3·10	2·57	30·21
Panch Mahals	1879 ..	2·04	1·76	1·32	0·68	0·69	0·60	0·89	0·85	1·09	1·44	1·85	1·32	14·47
	1880 ..	1·24	1·20	1·26	1·36	1·33	1·01	0·96	1·12	1·13	1·19	2·09	1·68	15·77
Ahmedabad	1879 ..	3·45	2·46	2·24	2·02	2·38	1·71	2·08	2·48	3·83	5·03	5·83	4·14	37·65
	1880 ..	3·57	3·38	3·31	2·54	2·14	1·45	1·40	1·80	2·01	2·28	2·88	2·86	29·58
Karáchi	1879 ..	1·77	1·35	1·16	1·20	1·34	2·58	1·90	1·00	0·92	0·96	1·20	1·57	17·30
	1880 ..	1·27	1·44	1·23	1·01	1·10	0·93	0·88	0·95	0·90	1·21	1·85	2·17	15·00
Hyderabad	1879 ..	1·77	1·45	1·32	0·88	1·37	1·87	0·65	0·55	0·60	0·77	1·11	1·26	13·62
	1880 ..	1·12	1·49	1·15	0·89	0·69	0·51	0·60	0·60	0·59	0·67	0·83	1·10	10·19
Thar and Párkar .	1879 ..	1·01	1·51	0·96	0·89	1·00	1·08	0·50	0·51	0·54	0·74	0·95	0·97	10·84
	1880 ..	1·34	1·59	1·88	1·51	0·89	0·81	0·65	0·56	0·52	0·80	0·86	1·41	12·79
Shikárpur	1879 ..	0·89	0·80	0·60	0·57	1·00	1·57	0·67	0·51	0·66	1·07	0·97	0·95	10·23
	1880 ..	0·89	0·93	0·78	0·75	0·73	0·65	0·58	0·44	0·50	0·59	0·68	0·82	8·56
Upper Sind Frontier...	1879 ..	0·91	0·82	1·00	0·71	0·54	1·57	0·51	0·50	0·58	0·66	0·81	0·94	9·61
	1880 ..	1·06	0·96	0·87	0·70	0·71	0·35	0·38	0·30	0·36	0·28	0·47	0·50	6·95
Total ..	1879 ..	2·15	1·73	1·66	1·59	1·70	1·76	1·90	2·19	2·17	2·34	2·50	2·19	23·88
	1880 ..	1·98	1·80	1·91	1·61	1·54	1·40	1·60	1·69	1·58	1·54	1·76	1·82	20·25

25. For the Khándesh, Poona, Panch Mahals and Thar and Párkar Districts the rate is higher than it was in 1879. The maximum (1·98) is in January, and the minimum (1·40) in June. In 1879 the maximum (2·50) was in November, and the minimum (1·59) in April.

26. The deaths from 1866 to 1879 are given in the following table, and the mean for that period is contrasted with the number of deaths for 1880:—

Deaths by Districts from 1866 to 1880.

Division.	Number.	Districts.	Population according to Census of 1872.	Number of Deaths from all Causes.													Total.	Mean for 14 years.		Deaths in 1880.	Ratio per 1,000 of Population.
				1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.		Number.	Ratio per 1,000 of Population.		
Northern Deccan.	1	Khándesh	1,028,642	6,858	10,992	12,853	16,314	11,974	15,896	23,358	14,361	14,852	31,051	20,511	25,885	36,454	18,392	259,751	18,554	18·04	21,077	20·49
	2	Násik	734,386	..	..	..	6,340	8,219	13,406	21,241	12,553	12,169	18,890	17,147	24,466	26,920	14,448	175,799	12,557	17·09	14,834	19·52
	3	Ahmednagar	773,938	13,528	10,642	16,227	12,928	10,955	12,235	19,268	11,062	13,809	23,790	20,640	30,891	27,955	16,564	240,494	17,178	22·20	14,102	18·22
	4	Poona	907,235	9,730	9,677	11,351	12,246	12,318	17,628	27,031	17,131	14,339	21,927	19,841	30,819	29,607	12,593	246,233	17,588	19·39	14,094	15·53
	5	Sholápur	718,034	7,968	4,786	7,640	11,052	7,942	8,468	15,252	9,115	10,743	17,066	18,339	35,054	26,648	23,189	203,262	14,519	20·22	10,942	15·24
Southern Deccan.	6	Sátára	1,061,002	17,797	13,567	17,472	28,080	17,999	17,475	29,697	21,905	19,648	28,133	24,775	52,033	40,872	21,233	345,686	24,692	23·27	20,844	19·65
	7	Belgaum	938,750	13,197	10,582	10,666	20,185	11,238	14,467	20,168	15,721	19,677	30,064	31,021	70,244	44,208	26,674	338,112	24,151	25·73	23,498	25·03
	8	Dhárwár	988,037	24,925	13,306	16,750	19,195	16,267	21,579	25,841	21,394	21,845	30,538	31,726	83,857	42,365	24,558	394,146	28,158	28·49	21,264	21·52
	9	Kaládgi	816,037	14,298	6,102	8,433	16,900	11,589	10,310	19,652	10,596	13,429	16,149	20,628	83,053	24,209	19,190	274,538	19,610	24·03	14,196	17·39
Konkan.	10	Kánara	398,406	8,155	8,151	7,664	9,158	9,209	10,340	10,452	10,068	10,853	11,338	12,708	21,561	17,242	13,635	160,534	11,467	28·78	11,871	29·79
	11	Ratnágiri	1,019,136	12,555	9,920	9,068	10,815	10,730	12,936	12,123	14,896	12,840	14,445	15,585	21,289	18,663	27,736	203,601	14,543	14·27	17,232	16·91
	12	Kolába	350,405	..	..	..	1,392	3,461	4,934	5,105	4,310	3,787	5,450	4,499	6,254	6,665	6,391	52,248	3,732	10·65	6,427	18·34
	13	Bombay City	644,405	17,351	16,088	16,254	18,293	15,459	16,658	19,759	16,092	15,132	18,295	20,553	33,223	26,686	22,294	272,132	19,438	30·16	20,873	32·39
	14	Thána	847,424	5,707	5,744	8,528	10,299	9,717	16,657	19,560	17,831	14,425	21,030	16,457	23,611	20,962	17,497	208,025	14,859	17·53	17,131	20·22
Gujarát.	15	Surat	607,087	7,857	6,890	8,897	12,665	10,591	11,596	16,803	18,352	14,978	17,048	15,870	15,325	15,810	17,711	190,393	13,599	22·40	15,425	25·40
	16	Broach	350,322	..	..	2,531	6,641	4,110	6,230	7,667	8,596	7,165	9,532	7,569	7,751	15,208	13,570	96,570	6,898	19·69	10,326	29·47
	17	Kaira	782,738	7,948	10,597	9,676	17,154	11,247	19,397	18,183	20,341	16,201	20,380	18,151	15,396	30,890	29,213	244,774	17,484	22·34	23,570	30·11
	18	Panch Mahals	240,743	1,938	2,269	1,751	3,641	2,210	2,950	3,447	3,738	3,025	4,465	5,183	3,557	18,214	3,483	59,871	4,276	17·76	3,796	15·77
	19	Ahmedabad	829,637	4,674	4,856	4,530	21,920	13,950	23,115	20,948	21,597	19,382	21,235	22,358	17,009	34,305	31,243	261,122	18,652	22·48	24,539	29·58
Sind.	20	Karáchi	423,495	3,445	3,822	3,035	8,852	3,673	3,998	7,812	6,282	4,742	4,768	6,317	6,965	7,275	7,327	78,313	5,594	13·21	6,353	15·00
	21	Hyderabad	721,947	4,925	5,504	5,250	8,942	5,787	7,996	11,106	6,358	5,621	6,180	7,358	8,810	9,764	9,836	103,437	7,388	10·23	7,354	10·19
	22	Thar and Párkar	180,761	667	347	736	2,808	853	645	762	732	1,125	1,146	1,861	2,509	3,752	1,960	19,903	1,422	7·87	2,311	12·79
	23	Shikárpur	776,327	1,782	8,287	5,176	7,997	9,409	9,970	11,097	7,339	7,940	7,087	8,224	7,417	7,551	7,940	107,216	7,658	8·85	6,490	8·36
	24	Upper Sind Frontier	89,985	643	867	570	704	864	845	725	602	925	711	939	729	726	865	10,715	765	8·50	625	6·95
		Total	16,228,774	185,948	162,996	185,058	284,521	219,766	279,726	367,057	290,972	278,652	375,718	368,260	627,708	532,951	387,542	4,546,875	324,777	20·01	328,673	20·25

ABSTRACT.

1	Northern Deccan	4,162,235	38,084	36,097	48,071	58,880	51,403	67,633	106,150	64,222	65,912	112,724	96,478	147,115	147,584	85,186	1,125,539	80,396	19·31	74,549	17·91
2	Southern do.	3,803,826	70,217	43,557	53,321	84,360	57,093	63,831	95,358	69,616	74,599	99,884	108,150	289,187	151,654	91,655	1,352,482	96,606	25·40	79,801	20·98
3	Konkan	3,259,776	43,768	39,903	41,514	49,957	48,576	61,520	66,999	63,197	57,037	70,558	69,802	105,938	90,218	87,553	896,540	64,039	19·63	73,534	22·56
4	Gujarát	2,810,522	22,417	24,612	27,385	62,021	42,108	63,288	67,048	72,624	60,751	72,660	69,131	59,038	114,427	95,220	852,730	60,909	21·67	77,656	27·63
5	Sind	2,192,415	11,462	18,827	14,767	29,303	20,586	23,454	31,502	21,313	20,353	19,893	24,699	26,430	29,068	27,928	319,584	22,827	10·41	23,133	10·55

N. B.—Prior to 1869 Násik was the portion of Khándesh and Ahmednagar Districts.
Do. Kolába do. of Thána District.
Prior to 1868 Broach do. of Surat do.
Deaths from 1866 to 1870 for Bombay City were taken from Health Officer's Report.
Do. 1866 to 1868 in Ahmedabad Districts were recorded only for one Táluka (Daskroi).
Born dead were included in the number of deaths from 1871 to 1873.

27. It will be seen that in Khándesh, Poona, Kolába, Panch Maháls and Thar and Párkar, the recorded number of deaths for the year is more than that for 1879. Taking the death-rate in each district for 1880, and comparing it with the annual mean death-rate for the preceding 14 years, it is higher in 13 out of 24 districts. The Konkan and Gujarát Divisions show higher death-rates this year than the mean for the previous 14 years.

Khándesh.

28. The area of the Khándesh District is 9,802 square miles, and the population, by the Census of 1872, is 530,610 males and 498,032 females: a total of 1,028,642, and the average population per square mile is 104·10 persons. The total of deaths was 21,077, and their ratio per 1,000 of population was 20·49. In 1879 these numbers were respectively 18,392 and 17·88. The mean annual number of deaths for the last 14 years was 18,554—a rate of 18·04 per 1,000. The maximum total mortality during the year (2,139) was in November, and the minimum (1,440) in February. In 1879 the maximum (1,883) was in November, and the minimum (1,106) in June. No death from cholera was reported this year; there were 136 in 1879, and the annual mean for the last 14 years was 1,456—a rate of 1·41 per 1,000. From small-pox there were no deaths against 98 in 1879, and the mean for the last 14 years was 1,067—a rate of 1·04 per 1,000. There were 17,159 deaths from fever against 14,895 in 1879; the rates were respectively 16·68 and 14·48 per 1,000 and the mean for the preceding 14 years was 12,052, or 11·72 per 1,000. The maximum for the year (1,824) was in November, and the minimum (1191) in June. From bowel-complaints there were 3,075 deaths against 2,451 in 1879—a rate of 2·99 against 2·38 per 1,000. The mean mortality for the last 14 years was 2,653, and the rate was 2·58 per 1,000. There were 257 deaths from injuries against 297 in 1879, the rates respectively being 0·25 and 0·27 per 1,000. The mean annual number for the last 14 years was 279—a rate of 0·29 per 1,000. There were 586 deaths against 515 in 1879 from "all other causes," and the respective rates were 0·57 and 0·50 per 1,000. The mean annual number for the last 14 years was 1,046—a rate of 1·02 per 1,000 of population.

Násik.

29. The area of the Násik District is 8,140 square miles, and the population, by the Census of 1872, is 376,851 males and 357,535 females. The total population for the district is 734,386, and the average population per square mile is 90·22 persons. The total of deaths was 14,334, and their ratio per 1,000 of population was 19·52. In 1879 these numbers were respectively 14,448 and 19·68. The mean annual number of deaths for the last 14 years was 12,557—a rate of 17·09 per 1,000. The maximum total mortality during the year (1,796) was in November, and the minimum (835) in May. In 1879 the maximum (1,671) was in January, and the minimum (909) in June. The deaths reported from cholera were 55 against 134 in 1879, and the annual mean for the last 14 years was 739—a rate of 1·01 per 1,000. There was only 1 death from small-pox against 5 in 1879. The mean for the last 14 years was 505—a rate of 0·69 per 1,000. From fever there were 11,481 deaths against 11,709 in 1879; the rates were respectively 15·63 and 15·94 per 1,000, and the mean for the last 14 years was 8,442, or 11·48 per 1,000. The greatest number (1,493) occurred in November, and the least (652) in May. There were 1,201 deaths from bowel-complaints against 1,122 in 1879—a rate of 1·64 against 1·52 per 1,000. The mean mortality for the last 14 years was 1,182, and the rate was 1·61 per 1,000. From injuries there were 169 deaths against 180 in 1879, the rates being 0·23 and 0·25 per 1,000 respectively. The mean annual number of deaths for the last 14 years was 139—a rate of 0·19 per 1,000. There were 1,427 deaths from "all other causes" against 1,298 in 1879, and the respective rates were 1·93 and 1·77 per 1,000. The mean annual number for the last 14 years was 1,550—a rate of 2·11 per 1,000 of population.

Ahmednagar.

30. The area of the Ahmednagar District is 6,647 square miles, and the population, by the Census of 1872, is 395,336 males and 378,602 females. The total population for the district is 773,938, and the average population per square mile is 116·43 persons. The total of deaths was 14,102, and their ratio per 1,000 of population was 18·22. In 1879 these numbers were respectively 16,564 and 21·38. The mean annual

number of deaths for the last 14 years was 17,178—a rate of 22·20 per 1,000. The maximum total mortality during the year (1,390) was in August, and the minimum (976) in May. In 1879 the maximum total mortality (2,180) was in August, and the minimum (955) in March. From cholera there were reported 11 deaths, of which 9 were in December. In 1879 there were 186, and the annual mean for the last 14 years was 1,211—a rate of 1·56 per 1,000. There were no deaths from small-pox against 5 in 1879. The mean for the last 14 years was 616—a rate of 0·80 per 1,000. There were 10,542 deaths from fever against 12,425 in 1879; the rates were respectively 13·62 and 16·06 per 1,000, and the mean for the preceding 14 years was 10,531, or 13·61 per 1,000. The greatest number (1,058) occurred in August, and the least (728) in February. From bowel-complaints there were 1,236 deaths against 1,481 in 1879—a rate of 1·60 against 1·91 per 1,000. The mean mortality for the last 14 years was 1,970, and the rate was 2·55 per 1,000. There were 189 deaths from injuries against 201 in 1879, the rates respectively being 0·25 and 0·26 per 1,000. The mean annual number for the last 14 years was 287—a rate of 0·37 per 1,000. From "all other causes" there were 2,124 deaths against 2,266 in 1879, and the respective rates were 2·75 and 2·92 per 1,000. The mean annual number for the last 14 years was 2,563—a rate of 3·31 per 1,000 of population.

Poona.

31. The area of the Poona District is 5,099 square miles, and the population, by the Census of 1872, is 466,757 males and 440,478 females. The total for the district is 907,235, and the average population per square mile is 177·92 persons. The total of deaths was 14,094, and the ratio per 1,000 of population was 15·53. In 1879 these numbers were respectively 12,593 and 13·88. The mean annual number for the last 14 years was 17,588—a rate of 19·39 per 1,000. The maximum during the year (1,564) was in January, and the minimum (956) in June. In 1879 the maximum (1,367) was in December, and the minimum (804) in June. There were 461 deaths reported from cholera, of which 388 were in January. In 1879 there were 100, and the annual mean for the last 14 years was 1,384—a rate of 1·53 per 1,000. There were no deaths from small-pox against 24 in 1879. The mean for the last 14 years was 623—a rate of 0·69 per 1,000. There were 10,522 deaths from fever against 9,599 in 1879; the rates were respectively 11·60 and 10·58 per 1,000. The mean annual number for the preceding 14 years was 10,926, or 12·04 per 1,000. The greatest number (1,133) occurred in December, and the least (710) in October. From bowel-complaints there were 976 deaths against 937 in 1879—a rate of 1·07 against 1·03 per 1,000. The mean mortality for the last 14 years was 1,458, and the rate was 1·61 per 1,000. There were 297 deaths from injuries against 308 in 1879, the rates respectively being 0·33 and 0·34 per 1,000. The mean annual number for the last 14 years was 263—a rate of 0·29 per 1,000. There were 1,838 deaths from "all other causes" against 1,625 in 1879, and the respective rates were 2·02 and 1·79 per 1,000. The mean annual number for the last 14 years was 2,935—a rate of 3·23 per 1,000 of population.

Sholápur.

32. The area of the Sholápur District is 4,499 square miles, and the population, by the Census of 1872, is 369,272 males and 348,762 females. The total for the district is 718,034, and the average population per square mile is 159·59 persons. The total of deaths was 10,942, and their ratio per 1,000 of population was 15·24. In 1879 these numbers were respectively 23,189 and 32·31. The mean annual number of deaths for the last 14 years was 14,519—a rate of 20·22 per 1,000. The maximum mortality during the year (1,184) was in January, and the minimum (749) in June. In 1879 the maximum (3,126) was in July, and the minimum (1,009) in March. Three deaths were reported from cholera against 22 in 1879, and the annual mean for the last 14 years was 1,255—a rate of 1·74 per 1,000. From small-pox there were no deaths. In 1879 only 1 was reported. The mean for the last 14 years was 486—a rate of 0·68 per 1,000. There were 7,833 deaths from fever against 12,890 in 1879; the rates were respectively 10·91 and 17·95 per 1,000. The mean annual number for the preceding 14 years was 7,483, or 10·42 per 1,000. The greatest number (861) occurred in December, and the least (546) in June. From bowel-complaints there were 853 deaths against 1,490 in 1879—a rate of 1·19 against 2·07 per 1,000. The mean mortality for the last 14 years was 1,578, and the rate was 2·20 per 1,000. There were 212

deaths from injuries against 294 in 1879, the rates respectively being 0·30 and 0·41 per 1,000. The mean annual number for the last 14 years was 221—a rate of 0·31 per 1,000. There were 2,041 deaths from "all other causes" against 8,492 in 1879, and the respective rates were 2·84 and 11·83 per 1,000. The mean annual number for the last 14 years was 3,494—a rate of 4·87 per 1,000 of population.

Sátára.

33. The area of the Sátára District is 4,804 square miles, and the population, by the Census of 1872, is 539,356 males and 521,646 females. The total for the district is 1,061,002, and the average population per square mile is 220·86 persons. The total of deaths was 20,844 and their ratio per 1,000 of population was 19·65. In 1879 these numbers were respectively 21,233 and 20·01. The mean annual number for the last 14 years was 24,692—a rate of 23·27 per 1,000. The maximum for the year (2,073) was in July, and the minimum (1,556) in April. In 1879 the maximum (2,198) was in August, and the minimum (1,439) in February. From cholera there were 14 deaths, and these were all in December. In 1879 none were reported. The annual mean for the last 14 years was 2,144—a rate of 2·02 per 1,000. There were only 2 deaths from small-pox against 3 in 1879, whilst the annual mean number for the last 14 years was 662—a rate of 0·62 per 1,000. From fever there were 17,083 deaths against 17,286 in 1879: the rates were respectively 16·10 and 16·30 per 1,000, and the mean for the preceding 14 years was 15,426, or 14·54 per 1,000. The greatest number (1,670) occurred in July, and the least (1,263) in October. From bowel-complaints there were 1,197 deaths against 1,494 in 1879—a rate of 1·13 against 1·41 per 1,000. The mean for the last 14 years was 3,015, and the rate was 2·84 per 1,000. There were 370 deaths from injuries against 434 in 1879, the rates being respectively 0·36 and 0·41 per 1,000. The mean annual number for the last 14 years was 359—a rate of 0·34 per 1,000. There were 2,178 deaths from "all other causes" against 2,016 in 1879, and the respective rates were 2·05 and 1·90 per 1,000. The mean annual number for the last 14 years was 3,087—a rate of 2·91 per 1,000 of population.

Belgaum.

34. The area of the Belgaum District is 4,592 square miles, and the population, by the Census of 1872, is 478,903 males and 459,847 females. The total population for the district is 938,750, and the average population per square mile is 204·43 persons. The total of deaths was 23,498, and their ratio per 1,000 of population was 25·03. In 1879 these numbers were respectively 26,674 and 28·40. The mean annual number for the last 14 years was 24,151—a rate of 25·73 per 1,000. The maximum for the year (2,555) was in March, and the minimum (1,362) in November. In 1879 the maximum (2,493) was in January, and the minimum (1,938) in October. Neither in this year nor in 1879 were there any reported deaths from cholera, but the annual mean for the last 14 years is 2,351—a rate of 2·51 per 1,000. From small-pox there were 5 deaths against 6 in 1879. The mean for the last 14 years was 720—a rate of 0·77 per 1,000. There were 15,666 deaths from fever against 18,922 in 1879; the rates were respectively 16·69 and 20·16. The mean for the preceding 14 years was 10,757, or 11·46 per 1,000. The greatest number (1,847) occurred in March, and the least (867) in November. From bowel-complaints there were 2,545 deaths against 1,901 in 1879—a rate of 2·71 against 2·02 per 1,000. The mean mortality for the last 14 years was 1,784, and the rate was 1·90 per 1,000. There were 339 deaths from injuries against 424 in 1879, the rates being respectively 0·36 and 0·45 per 1,000. The mean annual number of deaths for the last 14 years was 295—a rate of 0·31 per 1,000. There were 4,943 deaths from "all other causes" against 5,421 in 1879, and the respective rates were 5·26 and 5·77 per 1,000. The mean annual number for the last 14 years was 8,244—a rate of 8·78 per 1,000 of population.

Dhárwár.

35. The area of the Dhárwár District is 4,565 square miles, and the population, according to the Census of 1872, is 506,023 males and 482,014 females. The total for the district is 988,037, and the average population per square mile is 216·44 persons. The total of deaths was 21,264, and their ratio per 1,000 of population was 21·52. In 1879 these numbers were respectively 24,558 and 24·85. The mean annual number for the last 14 years was 28,153—a rate of 28·49 per 1,000. The maximum for the year (2,096) was in August, and the minimum (1,492) in October.

In 1879 the maximum (3,071) was in January, and the minimum (1,643) in October. Neither in this year nor in 1879 were any deaths reported from cholera, but the annual mean for the last 14 years was 2,420—a rate of 2·45 per 1,000. From small-pox there were only 2 deaths. In 1879 none were reported. The mean for the last 14 years was 919—a rate of 0·93 per 1,000. From fever there were 13,917 deaths against 17,802 in 1879: the rates were respectively 14·09 and 18·02 per 1,000, and the mean for the preceding 14 years was 13,761, or 13·93 per 1,000. The greatest number (1,479) occurred in January, and the least (923) in October. From bowel-complaints there were 3,038 deaths against 2,461 in 1879—a rate of 3·07 against 2·50 per 1,000. The mean mortality for the last 14 years was 4,513, and the rate was 4·56 per 1,000. There were 325 deaths from injuries against 445 in 1879, the rates respectively being 0·33 and 0·45 per 1,000. The mean annual number of deaths for the last 14 years was 361—a rate of 0·36 per 1,000. There were 3,982 deaths from "all other causes" against 3,850 in 1879, and the respective rates were 4·03 and 3·90 per 1,000. The mean annual number for the last 14 years was 6,179—a rate of 6·26 per 1,000 of population.

Kaládgi.

36. The area of the Kaládgi District is 5,696 square miles, and the population, by the Census of 1872, is 417,638 males and 398,399 females. The total for the district is 816,037, and the average population per square mile is 143·26 persons. The total of deaths was 14,195, and their ratio per 1,000 of population was 17·39. In 1879 these numbers were respectively 19,190 and 23·52. The mean annual number for the last 14 years was 19,610—a rate of 24·03 per 1,000. The maximum for the year (1,392) was in January, and the minimum (918) in October. In 1879 the maximum (2,353) was in August, and the minimum (1,154) in February. There were 4 deaths from cholera, and these were in the month of December, whilst in 1879 none were reported. The annual mean for the last 14 years was 1,946—a rate of 2·38 per 1,000. In this year there was only one death from small-pox, and in 1879 there were 10, but the annual mean for the last 14 years was 532—a rate of 0·65 per 1,000. From fever there were 11,054 deaths against 14,372 in 1879: the rates were respectively 13·55 and 17·61 per 1,000, and the mean for the preceding 14 years was 10,174, or 12·47 per 1,000. The greatest number (1,088) occurred in January, and the least (684) in October. From bowel-complaints there were 1,025 deaths against 464 in 1879—a rate of 1·25 against 0·57 per 1,000. The mean mortality for the last 14 years was 1,670, and the rate was 2·05 per 1,000. There were 306 deaths from injuries against 517 in 1879, the rates being respectively 0·38 and 0·63 per 1,000. The mean annual number for the last 14 years was 285—a rate of 0·35 per 1,000. There were 1,805 deaths from "all other causes" against 3,827 in 1879, and the respective rates were 2·20 and 4·69 per 1,000. The mean annual number for the last 14 years was 5,003—a rate of 6·13 per 1,000 of population.

Kánara.

37. The area of the Kánara District is 4,235 square miles, and the population, by the Census of 1872, is 206,417 males and 191,989 females. The total for the district is 398,406, and the average population per square mile is 94·07 persons. The total of deaths was 11,871, and their ratio per 1,000 of population was 29·79. In 1879 these numbers were respectively 13,635 and 34·22. The mean annual number for the last 14 years was 11,467—a rate of 28·78 per 1,000. The maximum for the year (1,347) was in January, and the minimum (802) in June. In 1879 the maximum (1,469) was in January, and the minimum (910) in May. Neither in this year nor in 1879 were any deaths reported from cholera, but the annual mean for the last 14 years was 385—a rate of 0·97 per 1,000. From small-pox there was only 1 death, and only 8 in 1879. The mean for the last 14 years was 283—a rate of 0·71 per 1,000. There were 7,181 deaths from fever against 8,867 in 1879; the rates were respectively 18·02 and 22·25 per 1,000, and the annual mean number for the preceding 14 years was 6,543, or 16·42 per 1,000. The greatest number (830) occurred in January, and the least (470) in June. From bowel-complaints there were 854 deaths against 1,062 in 1879—a rate of 2·15 against 2·66 per 1,000. The mean for the last 14 years was 982, and the rate was 2·46 per 1,000. There were 200 deaths from injuries against 194 in 1879, the rates respectively being 0·50 and 0·49 per 1,000. The mean annual number for the last 14 years was

218—a rate of 0·55 per 1,000. There were 3,635 deaths from "all other causes" against 3,504 in 1879, and the respective rates were 9·12 and 8·79 per 1,000. The mean annual number for the last 14 years was 3,055—a rate of 7·67 per 1,000 of population.

Ratnágiri.

38. The area of the Ratnágiri District is 3,789 square miles, and the population, by the Census of 1872, is 491,116 males and 528,020 females. The total for the district is 1,019,136, and the average population per square mile is 290·09 persons. The total of deaths was 17,232, and their ratio per 1,000 of population was 16·91. In 1879 these numbers were respectively 27,736 and 27·22. The mean annual number for the last 14 years was 14,543—a rate of 14·27. The maximum for the year (1,783) was in July, and the minimum (1,194) in November. In 1879 the maximum (3,374) and the minimum (1,713) were also in the same months. No deaths were reported from cholera against 26 in 1879, and the annual mean for the last 14 years was 463—a rate of 0·45 per 1,000. From small-pox there were 29 deaths against 24 last year, and the mean for the last 14 years was 437—a rate of 0·43 per 1,000. There were 11,603 deaths from fever against 19,955 in 1879; the rates were respectively 11·38 and 19·58 per 1,000. The mean for the preceding 14 years was 7,591, or 7·45 per 1,000. The greatest number (1,260) occurred in July, and the least (781) in October. From bowel-complaints there were 1,335 deaths against 2,092 in 1879—a rate of 1·31 against 2·05 per 1,000. The annual mortality for the last 14 years was 1,201, and the rate was 1·18 per 1,000. There were 439 deaths from injuries against 546 in 1879, the rates being 0·43 and 0·54 per 1,000 respectively. The mean annual number for the last 14 years was 344—a rate of 0·34 per 1,000. There were 3,826 deaths from "all other causes" against 5,093 in 1879, and the respective rates were 3·76 and 5·00 per 1,000. The mean annual number for the last 14 years was 4,507—a rate of 4·42 per 1,000 of population.

Kolába.

39. The area of the Kolába District is 1,482 square miles, and the population, by the Census of 1872, is 178,047 males and 172,358 females. The total for the district is 350,405, and the average population per square mile is 236·44 persons. The total of deaths was 6,427, and their ratio per 1,000 of population was 18·34. In 1879 these numbers were respectively 6,391 and 18·24. The mean annual number for the last 14 years was 3,732—a rate of 10·65 per 1,000. The maximum for the year (676) was in December, and the minimum (414) in May. In 1879 the maximum (680) was in August, and the minimum (383) in April. There were 27 deaths from cholera, and they were all reported in December. In 1879 there were 180 deaths, and the annual mean for the last 14 years was 290—a rate of 0·83 per 1,000. From small-pox there were 67 deaths against 41 in 1879. The mean for the last 14 years was 140—a rate of 0·40 per 1,000. There were 5,064 deaths from fever against 4,727 in 1879; the rates were respectively 14·45 and 13·50 per 1,000, and the annual mean for the preceding 14 years was 2,438, or 6·96 per 1,000. The greatest number (545) took place in December, and the least (302) in May. From bowel-complaints there were 141 deaths against 135 in 1879—a rate of 0·40 against 0·39 per 1,000. The mean for the last 14 years was 152, and the rate was 0·43 per 1,000. There were 115 deaths from injuries, and there were 115 last year, the rates being the same (0·33) for both the years. The mean annual number for the last 14 years was 94—a rate of 0·27 per 1,000. There were 1,013 deaths from "all other causes" against 1,193 in 1879, and the respective rates were 2·89 and 3·40 per 1,000. The mean annual number for the last 14 years was 616—a rate of 1·76 per 1,000 of population.

Bombay City.

40. The area of Bombay City is 22 square miles, and the population, by the Census of 1872, is 399,716 males and 244,689 females. The total for the city is 644,405, and the average population per square mile is 29,291·13 persons. The total of deaths was 20,873, and their ratio per 1,000 of population was 32·39. In 1879 these numbers were respectively 22,294 and 34·60. The mean annual number for the last 14 years was 19,438—a rate of 30·16 per 1,000. The maximum for the year (2,260) was in March, and the minimum (1,468) in July. In 1879 the maximum (2,022) was in January, and the minimum (1,515) in June. From

cholera 30 deaths were registered against 323 in 1879, and the annual mean for the last 14 years was 544—a rate of 0·84 per 1,000. There were 206 deaths from small-pox against 478 in 1879; the ratio per 1,000 of population was 0·32 and 0·74 respectively. The mean for the last 14 years was 1,032—a rate of 1·60 per 1,000. From fever there were 7,391 deaths against 8,441 in 1879; the rates were respectively 11·47 and 13·10 per 1,000, and the mean for the preceding 14 years was 7,017, or 10·89 per 1,000. The greatest number (881) occurred in March, and the least (383) in December. From bowel-complaints there were 1,683 deaths against 2,467 in 1879—a rate of 2·61 against 3·83 per 1,000. The mean for the last 14 years was 1,942, and the rate was 3·01 per 1,000. There were 330 deaths from injuries against 398 in 1879, the rates respectively being 0·51 and 0·62 per 1,000. The mean annual number of deaths for the last 14 years was 287—a rate of 0·45 per 1,000. There were 11,233 deaths from "all other causes" against 10,187 in 1879, and the respective rates were 17·43 and 15·81 per 1,000. The mean annual number for the last 14 years was 8,615—a rate of 13·37 per 1,000 of population.

Thána.

41. The area of the Thána District is 4,052 square miles, and the population, by the Census of 1872, is 439,176 males and 408,248 females. The total for the district is 847,424, and the average population per square mile is 209·14 persons. The total of deaths was 17,131, and their ratio per 1,000 of population was 20·22. In 1879 these numbers were respectively 17,497 and 20·66. The mean annual number for the last 14 years was 14,859—a rate of 17·53 per 1,000. The maximum for the year (2,125) was in January, and the minimum (994) in June. In 1879 the maximum (1,956) was in November, and the minimum (1,163) in May. There were 70 deaths from cholera against 770 in 1879, and the mean for the last 14 years was 1,130—a rate of 1·33 per 1,000. Both in this year and in 1879 there were only 5 deaths from small-pox, but the annual mean for the last 14 years was 466—a rate of 0·55 per 1,000. From fever there were 14,997 deaths against 14,199 in 1879; the rates were respectively 17·70 and 16·76 per 1,000. The annual mean for the preceding 14 years was 10,796—a rate of 12·74 per 1,000. The greatest number (1,917) occurred in January, and the least (855) in June. There were 188 deaths from bowel-complaints against 216 in 1879—a rate of 0·22 against 0·25 per 1,000. The mean for the last 14 years was 399, and the rate was 0·47 per 1,000. There were 398 deaths from injuries against 420 in 1879, the rates being respectively 0·47 and 0·50 per 1,000. The mean annual number for the last 14 years was 378—a rate of 0·45 per 1,000. There were 1,473 deaths from "all other causes" against 1,887 in 1879, and the respective rates were 1·74 and 2·23 per 1,000. The mean annual number for the last 14 years was 1,691—a rate of 1·99 per 1,000 of population.

Surat.

42. The area of the Surat District is 1,588 square miles, and the population, by the Census of 1872, is 304,246 males and 302,841 females. The total for the district is 607,087, and the average population per square mile is 382·30 persons. The total of deaths was 15,425, and their ratio per 1,000 of population was 25·40. In 1879 these numbers were respectively 17,711 and 29·17. The mean annual number for the last 14 years was 13,599—a rate of 22·40 per 1,000. The maximum for the year (1,612) was in November, and the minimum (886) in June. In 1879 the maximum (2,461) and the minimum (1,076) were also in the same months. There were 4 deaths from cholera against 509 in 1879, and the annual mean for the last 14 years was 585—a rate of 0·96 per 1,000. From small-pox there were 3 deaths against 4 in 1879, and the mean annual number was 482—a rate of 0·79 per 1,000. There were 12,383 deaths from fever against 13,677 in 1879; the rates were respectively 20·39 and 22·53 per 1,000. The annual mean for the preceding 14 years was 8,554, or 14·09 per 1,000. The maximum (1,314) was in November, and the minimum (709) in June. From bowel-complaints there were 1,366 deaths against 1,500 in 1879—a rate of 2·25 against 2·47 per 1,000. The mean mortality for the last 14 years was 1,114, and the rate was 1·84 per 1,000. There were 265 deaths from injuries against 316 in 1879, the rates respectively being 0·44 and 0·52 per 1,000. The mean annual number of deaths for the last 14 years was 226—a rate of 0·37 per 1,000. There were 1,404 deaths from "all other causes" against 1,705 in 1879, and the respective rates were 2·31 and 2·82 per 1,000. The mean

annual number for the last 14 years was 2,638—a rate of 4·35 per 1,000 of population.

Broach.

43. The area of the Broach District is 1,358 square miles, and the population, by the Census of 1872, is 182,511 males and 167,811 females. The total for the district is 350,322, and the average population per square mile is 257·97 persons. The total of deaths was 10,326, and their ratio per 1,000 of population was 29·47. In 1879 these numbers were respectively 13,570 and 38·73. The mean annual number for the last 14 years was 6,898—a rate of 19·69 per 1,000. The maximum for the year (1,260) was in November, and the minimum (523) in June. In 1879 the maximum (2,993) and the minimum (413) were also in these months. No deaths from cholera were reported this year, and there were only 8 in 1879, but the annual mean for the last 14 years was 297—a rate of 0·86 per 1,000. From small-pox there were no deaths, and only one in 1879, but the annual mean for the last 14 years was 129—a rate of 0·37 per 1,000. There were 9,470 deaths from fever against 11,755 in 1879; the rates were respectively 27·03 and 33·55 per 1,000. The annual mean for the last 14 years was 5,197, or 14·83 per 1,000. The greatest number (1,157) occurred in November, and the least (471) in July. From bowel-complaints there were 320 deaths against 881 in 1879—a rate of 0·91 against 2·51 per 1,000. The mean for the last 14 years was 352, and the rate was 1·00 per 1,000. There were 100 deaths from injuries against 157 in 1879, the rates respectively being 0·28 and 0·45 per 1,000. The mean annual number for the last 14 years was 101—a rate of 0·28 per 1,000. There were 436 deaths from "all other causes" against 768 in 1879, and the respective rates were 1·25 and 2·19 per 1,000. The mean annual number for the last 14 years was 823—a rate of 2·35 per 1,000 of population.

Kaira.

44. The area of the Kaira District is 1,561 square miles, and the population, by the Census of 1872, is 419,142 males and 363,591 females. The total for the district is 782,733, and the average population per square mile is 501·43 persons. The total of deaths was 23,570, and their ratio per 1,000 of population was 30·11. In 1879 these numbers were respectively 29,213 and 37·32. The mean annual number for the last 14 years was 17,484—a rate of 22·34 per 1,000. The maximum for the year (2,423) was in November, and the minimum (1,448) in June. In 1879 the maximum (5,608) was in October, and the minimum (1,172) in April. No death from cholera was reported in this year, whilst in 1879 there were 129, and the annual mean for the last 14 years was 571—a rate of 0·73. From small-pox there were no deaths, and only 5 in 1879, but the annual mean for the last 14 years was 357—a rate of 0·45 per 1,000. There were 20,475 deaths from fever against 26,227 in 1879; the rates were respectively 26·16 and 33·50, and the mean for the preceding 14 years was 12,871, or 16·44 per 1,000. The greatest number (2,138) occurred in November, and the least (1,212) in June. From bowel-complaints there were 1,810 deaths against 1,676 in 1879—a rate of 2·31 against 2·14 per 1,000. The mean for the last 14 years was 1,711, and the rate was 2·19 per 1,000. There were 363 deaths from injuries against 388 in 1879, the rates respectively being 0·46 and 0·50 per 1,000. The mean annual number for the last 14 years was 269—a rate of 0·34 per 1,000. There were 922 deaths from "all other causes" against 788 in 1879, and the respective rates were 1·18 and 1·01 per 1,000. The mean annual number for the last 14 years was 1,706—a rate of 2·19 per 1,000 of population.

Panch Mahâls.

45. The area of the Panch Mahâls District is 1,731 square miles, and the population, by the Census of 1872, is 126,304 males and 114,439 females. The total for the district is 240,743, and the average population per square mile is 139·08 persons. The total of deaths was 3,796, and their ratio per 1,000 of population was 15·77. In 1879 these numbers were respectively 3,483 and 14·47. The mean annual number for the last 14 years was 4,276—a rate of 17·76 per 1,000. The maximum for the year (503) was in November, and the minimum (232) in July. In 1879 the maximum (492) was in January, and the minimum (146) in June. From cholera there were 4 deaths. In 1879 none were reported. The mean for the last 14 years was 519—a rate of 2·16 per 1,000. There were no deaths from small

pox, and only 2 in 1879, but the annual mean for the last 14 years was 68—a rate of 0·28 per 1,000. From fever there were 3,487 deaths against 3,055 in 1879; the rates were respectively 14·48 and 12·69 per 1,000, and the mean for the preceding 14 years was 3,075, or 12·77 per 1,000. The greatest number (486) occurred in November, and the least (202) in July. From bowel-complaints there were 123 deaths against 170 in 1879—a rate of 0·51 against 0·71 per 1,000. The mean for the last 14 years was 280, and the rate was 1·16 per 1,000. There were 102 deaths from injuries against 130 in 1879, the rates respectively being 0·42 and 0·54 per 1,000. The mean annual number of deaths for the last 14 years was 98—a rate of 0·41 per 1,000. There were 80 deaths from "all other causes" against 126 in 1879, and the respective rates were 0·33 and 0·52 per 1,000. The mean annual number for the last 14 years was 236—a rate of 0·98 per 1,000 of population.

Ahmedabad.

46. The area of the Ahmedabad District is 3,844 square miles, and the population, by the Census of 1872, is 438,759 males and 390,878 females. The total for the district is 829,637, and the average population per square mile is 215·80 persons. The total of deaths was 24,539, and their ratio per 1,000 of population was 29·58. In 1879 these numbers were respectively 31,243 and 37·65. The mean annual number for the last 14 years was 18,652—a rate of 22·48 per 1,000. The maximum for the year (2,957) was in January, and the minimum (1,174) in July. In 1879 the maximum (4,839) was in November, and the minimum (1,420) in June. From cholera there was only 1 death against 274 in 1879, and the annual mean for the last 14 years was 718—a rate of 0·87 per 1,000. No deaths were reported from small-pox during the year against 19 in 1879, and the annual mean for the last 14 years was 363—a rate of 0·44 per 1,000. There were 20,546 deaths from fever against 25,807 in 1879; the rates were respectively 24·77 and 31·10. The mean for the preceding 14 years was 12,767, or 15·39 per 1,000. The greatest number (2,540) occurred in January, and the least (936) in July. From bowel-complaints there were 980 deaths against 1,799 in 1879—a rate of 1·18 against 2·16 per 1,000. The mean mortality for the last 14 years was 1,929, and the rate was 2·32 per 1,000. There were 214 deaths from injuries against 213 in 1879, the rates respectively being the same (0·26 per 1,000.) The annual mean number for the last 14 years was 244—a rate of 0·29 per 1,000. There were 2,798 deaths from "all other causes" against 3,131 in 1879, and the respective rates were 3·37 and 3·77 per 1,000. The mean annual number for the last 14 years was 2,630—a rate of 3·17 per 1,000 of population.

Karáchi.

47. The area of the Karáchi District is 14,091 square miles, and the population, by the Census of 1872, is 240,146 males and 183,349 females. The total for the district is 423,495, and the average population per square mile is 30·05 persons. The total of deaths was 6,353, and their ratio per 1,000 of population was 15·00. In 1879 these numbers were respectively 7,327 and 17·30. The mean annual number for the last 14 years was 5,594—a rate of 13·21 per 1,000. The maximum for the year (920) was in December, and the minimum (367) in July. In 1879 the maximum total mortality (1,092) was in June, and the minimum (389) in September. No death from cholera was reported in this year, whilst in 1879 there were 1,175 deaths. The annual mean for the last 14 years was 396—a rate of 0·93 per 1,000. From small-pox there were 82 deaths against 7 in 1879. The mean for the last 14 years was 88—a rate of 0·21 per 1,000. There were 4,745 deaths from fever against 4,887 in 1879; the rates were respectively 11·20 and 11·54 per 1,000, and the mean for the preceding 14 years was 3,964, or 9·36 per 1,000. The greatest number (746) occurred in December, and the least (228) in July. From bowel-complaints there were 167 deaths against 108 in 1879—a rate of 0·40 against 0·25 per 1,000. The mean for the last 14 years was 118, and the rate was 0·28 per 1,000. There were 259 deaths from injuries against 279 in 1879, the rates respectively being 0·61 and 0·66 per 1,000. The mean annual number of deaths for the last 14 years was 241—a rate of 0·57 per 1,000. There were 1,100 deaths from "all other causes" against 871 in 1879, and the respective rates were 2·60 and 2·06 per 1,000. The mean annual number for the last 14 years was 787—a rate of 1·86 per 1,000 of population.

Hyderabad.

48. The area of the Hyderabad District is 9,053 square miles, and the population, by the Census of 1872, is 397,800 males and 324,147 females. The total for the district is 721,947, and the average population per square mile is 79·75 persons. The total of deaths was 7,354, and their ratio per 1,000 of population was 10·19. In 1879 these numbers were respectively 9,836 and 13·62. The mean annual number for the last 14 years was 7,388—a rate of 10·23 per 1,000. The maximum for the year (1,072) was in February, and the minimum (369) in June. In 1879 the maximum (1,361) was in June, and the minimum (394) in August. There were no deaths from cholera during the year, but in 1879 there were 1,433—a rate of 1·99 per 1,000, and the annual mean for the last 14 years was 239—a rate of 0·33 per 1,000. From small-pox there were 66 deaths against 54 in 1879, and the mean for the last 14 years was 111—a rate of 0·15 per 1,000. There were 6,270 deaths from fever against 7,214 in 1879; the rates were respectively 8·68 and 9·99 per 1,000, and the mean for the preceding 14 years was 5,753, or 7·97 per 1,000. The greatest number (980) occurred in February, and the least (270) in June. From bowel-complaints there were 99 deaths against 97 in 1879—a rate of 0·14 against 0·13 per 1,000. The mean mortality for the last 14 years was 115, and the rate was 0·16 per 1,000. There were 454 deaths from injuries against 516 in 1879, the rates being respectively 0·63 and 0·71 per 1,000. The mean annual number of deaths for the last 14 years was 450—a rate of 0·62 per 1,000. There were 465 deaths from "all other causes" against 522 in 1879, and the respective rates were 0·64 and 0·72 per 1,000. The mean annual number for the last 14 years was 720—a rate of 1·00 per 1,000 of population.

Thar and Párkar.

49. The area of the Thar and Párkar District is 12,729 square miles, and the population, by the Census of 1872, is 103,271 males and 77,490 females. The total for the district is 180,761, and the average population per square mile is 14·20 persons. The total of deaths was 2,311, and their ratio per 1,000 of population was 12·79. In 1879 these numbers were respectively 1,960 and 10·84. The mean annual number for the last 14 years was 1,422—a rate of 7·87 per 1,000. The maximum for the year (330) was in March, and the minimum (94) in September. In 1879 the maximum (273) was in February, and the minimum (90) in July. No death from cholera was reported during the year against 74 in 1879, and the annual mean for the last 14 years was 67—a rate of 0·37 per 1,000. In this year and in 1879 also there were 7 deaths from small-pox. The mean for the last 14 years was 11—a rate of 0·06 per 1,000. From fever there were 2,049 deaths against 1,739 in 1879; the rates were respectively 11·34 and 9·62 per 1,000, and the mean for the preceding 14 years was 1,190, or 6·58 per 1,000. The greatest number (314) occurred in March, and the least (70) in September. From bowel-complaints there were 19 deaths in this year, and the same number in 1879—a rate of 0·11 per 1,000. The mean mortality for the last 14 years was 39, and the rate was 0·22 per 1,000. There were 77 deaths from injuries against 58 in 1879, the rates being respectively 0·43 and 0·32 per 1,000. The mean annual number for the last 14 years was 58—a rate of 0·32 per 1,000. There were 159 deaths from "all other causes" against 63 in 1879, and the respective rates were 0·87 and 0·35 per 1,000. The mean annual number for the last 14 years was 57—a rate of 0·32 per 1,000 of population.

Shikárpur.

50. The area of the Shikárpur District is 8,813 square miles, and the population, by the Census of 1872, is 424,528 males and 351,699 females. The total for the district is 776,227, and the average population per square mile is 88·08 persons. The total of deaths was 6,490, and their ratio per 1,000 of population was 8·36. In 1879 these numbers were respectively 7,940 and 10·23. The mean annual number for the last 14 years was 6,865—a rate of 8·85 per 1,000. The maximum for the year (720) was in February, and the minimum (342) in August. In 1879 the maximum (1,208) was in June, and the minimum (391) in August. No death from cholera was reported this year, whilst in 1879 there were 1,359, or 1·75 per 1,000. The annual mean for the last 14 years was 434—a rate of 0·56 per 1,000. From small-pox there were 400 deaths against 283 in 1879, and the annual mean for the last 14 years was 122—a rate of 0·16 per 1,000. There were 5,431 deaths from fever against 5,508 in 1879; the rates were respectively 7·00 and 7·10 per 1,000, and the mean

for the preceding 14 years was 5,569, or 7·18 per 1,000. The greatest number (599) occurred in February, and the least (266) in August. From bowel-complaints there were 176 deaths against 279 in 1879—a rate of 0·23 against 0·36 per 1,000. The mean for the last 14 years was 185, and the rate was 0·24 per 1,000. There were 282 deaths from injuries against 257 in 1879, the rates respectively being 0·37 and 0·33 per 1,000. The mean annual number of deaths for the last 14 years was 237—a rate of 0·31 per 1,000. There were 201 deaths from "all other causes" against 254 in 1879 and the respective rates were 0·26 and 0·33 per 1,000. The mean annual number for the last 14 years was 318—a rate of 0·41 per 1,000 of population.

Upper Sind Frontier.

51. The area of the Upper Sind Frontier District is 1,913 square miles, and the population, by the Census of 1872, is 50,463 males and 39,522 females. The total for the district is 89,985, and the average population per square mile is 48·37 persons. The total of deaths was 625, and their ratio per 1,000 of population was 6·95. In 1879 these numbers were respectively 865 and 9·61. The mean annual number for the last 14 years was 765—a rate of 8·50 per 1,000. The maximum for the year (95) was in January, and the minimum (26) in October. In 1879 the maximum (141) was in June, and the minimum (45) in August. No death from cholera was reported this year. In 1879 there were 99, or 1·10 per 1,000, and the annual mean for the last 14 years was 21—a rate of 0·23 per 1,000. From small-pox there were 63 deaths against 66 in 1879, and the mean for the last 14 years was 14—a rate of 0·15 per 1,000. There were 430 deaths from fever against 568 in 1879; the rates were respectively 4·78 and 6·31 per 1,000, and the mean for the preceding 14 years was 631, or 7·01 per 1,000. The greatest number (70) occurred in January, and the least (15) in June. From bowel-complaints there were 45 deaths against 47 in 1879—a rate of 0·50 against 0·52 per 1,000. The mean for the last 14 years was 27—a rate of 0·30 per 1,000. There were 20 deaths from injuries this year, and the same number in 1879—a rate of 0·22 per 1,000. The mean annual number of deaths for the last 14 years was 35—a rate of 0·38 per 1,000. There were 67 deaths from "all other causes" against 65 in 1879, and the respective rates were 0·75 and 0·72 per 1,000. The annual mean for the last 14 years was 39—a rate of 0·43 per 1,000 of population.

Diagram showing the number of deaths registered in each district.

52. The diagram on the opposite page will show the number of deaths registered in each district for 1880, contrasted with the mean for the preceding 14 years.

Deaths at different stages of life.

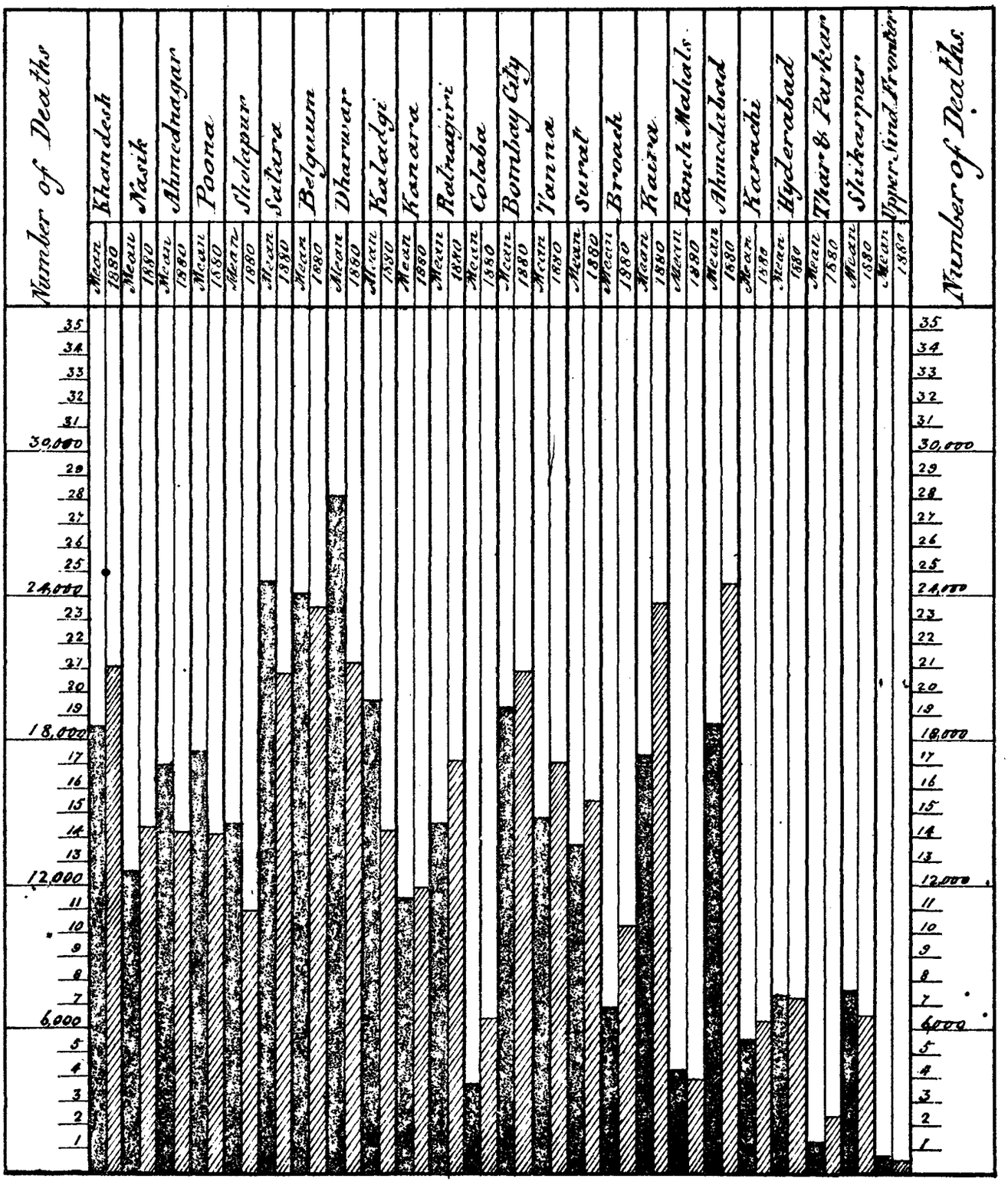
53. The following table gives the comparative results of deaths at different stages of life, and it will be seen that for 1880, as compared with 1879, there is a marked decline in the number of deaths amongst boys and girls, adults and old people, but amongst the children under 1 year of age, the number appears to have been increased, being 55,093 against 44,359 in 1879. The mean mortality for the past 6 years shows a remarkable decline in the number of deaths this year in each stage of life. In 1880 the highest ratio (94·55) is amongst infants under 1 year, and the lowest (13·43) amongst boys and girls under 12 years. Taking the percentage on total deaths, the highest (38·49) was amongst the adults, and the lowest (16·76) amongst infants:—

Ages.	1874.	1875.	1876.	1877.	1878.	1879.	Mean for 6 years.	Ratio per 1,000 of Population.	Percentage on Total Mean Deaths.	1880.	Ratio per 1,000 of Population.	Percentage on Total Deaths.
Infants unable to walk (under 1 year)	49,945	68,696	68,596	86,787	56,285	44,359	62,445	107·17	14·58	55,093	94·55	16·76
Boys and Girls, 1 to 12 years...	70,965	103,743	93,404	152,290	136,120	84,821	106,891	20·11	24·95	71,409	13·43	21·73
Adults (men and women), 12 to 50 years	67,413	122,241	121,296	232,359	208,094	157,079	151,414	16·67	35·34	126,495	13·92	38·49
Old people (men and women) over 50 years	90,329	81,038	84,964	156,272	132,822	101,283	107,701	86·52	25·13	75,676	60·80	23·02
Total ...	278,652	375,718	368,260	627,708	532,821	387,542	428,450	26·40	100	328,673	20·25	100

N.B.—In 1878, 130 deaths took place from January to June in Mirpur Khas B. C. in the Hyderabad District, of which no information as to deaths by ages was available.

Diagram

Showing for each District the total number of deaths registered in 1880 compared with the mean for the previous 14 years.



N.B.—Mean—Black

1880—Hatched

Govt Photozincographic Office, Poona, 1881

Deaths at different age-periods.

54. The following table shows, for each district, the number of deaths at the different age-periods, and the ratios per 1,000 are calculated upon the living numbers for those same periods. It will be seen that, for the Presidency, the mortality amongst infants under 1 year was at the rate of 94·55 per 1,000. In 1879 it was at the rate of 76·13. It ranged in this year from a maximum of 530·22 in the City of Bombay to a minimum of 19·57 on the Upper Sind Frontier. The period of greatest immunity was that "above 6 and under 12," when the rate was 7·71 per 1,000. For those above 60 years of age and upwards the mortality was at the rate of 89·43 against 119·60 per 1,000 in 1879. The percentage on total deaths amongst infants for the Presidency is at the rate of 16·76, but for the City of Bombay it is 29·24—more than a quarter of the total mortality for the year. For those "above 1 and under 6" the percentage on total death is at the rate of 16·01 for the Presidency, but in the Khándesh District it is 25·54, whilst for Hyderabad it is only 6·38:—

Districts.	Under 1 year.			1 and under 6.			6 and under 12.			12 and under 20.			20 and under 30.			30 and under 40.			40 and under 50.			50 and under 60.			60 and upwards.			Total.	
	Number of Deaths.	Ratio per 1,000 of Population.	Percentage on Total Deaths.	Number of Deaths.	Ratio per 1,000 of Population.	Percentage on Total Deaths.	Number of Deaths.	Ratio per 1,000 of Population.	Percentage on Total Deaths.	Number of Deaths.	Ratio per 1,000 of Population.	Percentage on Total Deaths.	Number of Deaths.	Ratio per 1,000 of Population.	Percentage on Total Deaths.	Number of Deaths.	Ratio per 1,000 of Population.	Percentage on Total Deaths.	Number of Deaths.	Ratio per 1,000 of Population.	Percentage on Total Deaths.	Number of Deaths.	Ratio per 1,000 of Population.	Percentage on Total Deaths.	Number of Deaths.	Ratio per 1,000 of Population.	Percentage on Total Deaths.	Number of Deaths.	Ratio per 1,000 of Population.
Khándesh	4,865	119·01	23·08	5,383	27·21	25·54	987	6·72	4·68	844	5·66	4·00	1,518	7·78	7·20	1,724	12·40	8·19	1,733	20·28	8·22	1,838	38·75	8·72	2,185	81·54	10·37	21,077	20·49
Násik	2,927	93·08	20·42	2,704	19·76	18·86	1,086	9·65	7·58	962	9·00	6·71	1,445	10·08	10·08	1,322	18·91	9·22	1,086	18·88	7·58	1,194	36·59	8·33	1,608	88·68	11·22	14,334	19·52
Ahmednagar	2,867	91·57	20·33	2,059	14·91	14·60	640	5·30	4·54	619	5·44	4·39	1,267	8·24	8·98	1,284	13·04	9·11	1,340	20·77	9·50	1,759	47·20	12·47	2,367	142·59	16·08	14,102	18·22
Poona	1,862	59·75	13·21	1,884	11·67	13·37	828	6·12	5·87	1,068	8·21	7·58	1,847	10·40	13·10	1,538	12·65	10·91	1,501	19·35	10·65	1,665	34·07	11·81	1,901	79·58	13·49	14,094	15·58
Sholápur	1,236	45·59	11·30	1,637	13·23	14·96	732	6·86	6·69	651	6·62	5·95	1,269	8·10	11·60	1,262	13·00	11·53	1,357	20·62	12·40	1,491	37·66	13·63	1,307	71·71	11·93	10,942	15·24
Sátára	3,872	133·41	18·58	3,695	20·75	17·73	1,075	6·75	5·16	836	6·36	3·11	1,722	9·01	8·50	1,812	12·16	8·69	2,024	19·50	9·71	2,488	36·28	11·70	3,370	65·05	16·17	20,844	19·65
Belgaum	2,999	77·21	12·76	3,378	21·27	14·38	1,713	11·61	7·29	1,288	9 66	5·46	2,648	15·66	11·27	2,862	23·02	12·18	2,678	31·71	11·40	2,654	52·48	11·29	3,283	101·65	13·97	23,498	25·03
Dhárwár	4,330	108·43	20·36	2,626	16·50	12·35	1,472	9·42	6·92	1,476	9·50	6·94	2,687	14·58	12·64	2,459	19·73	11·56	2,227	25·88	10·47	2,041	37·08	9·60	1,946	71·60	9·15	21,264	21·52
Kaládgi	1,238	69·21	8·72	1,380	8·57	9·72	1,098	9·58	7·74	1,006	9·17	7·09	2,122	13·81	14·95	2,080	18·09	14·65	1,897	24·66	13·36	1,764	44·19	12·43	1,610	58·93	11·34	14,195	17·39
Kánara	2,338	185·48	19·70	1,049	17·66	8·84	502	7·93	4·23	814	10·33	6·86	2,038	24·03	17·18	1,520	31·12	12·80	1,297	45·84	10·93	1,107	69·42	9·33	1,211	181·94	10·20	11,871	29·79
Ratnágiri	954	21·98	5·54	1,715	6·56	9·95	925	5·61	5·37	1,149	7·89	6·67	2,202	12·35	12·78	1,966	16·12	11·40	2,064	24·32	11·98	2,418	48·13	14·03	3,839	105·58	22·28	17,232	16·91
Kolába	908	68·14	14·13	1,228	18·62	19·11	868	6·72	5·73	840	6·21	5·29	618	8·91	9·62	697	16·47	10·84	704	25·82	10·95	736	47·15	11·45	828	117·06	12·88	6,427	18·34
Bombay City	6,104	530·22	29·24	3,659	63·69	17·54	755	12·43	3·62	1,411	14·63	6·76	2,741	16·16	13·13	1,915	16·27	9·17	1,320	19·19	6·32	1,370	39·07	6·56	1,598	59·10	7·66	20,873	32·39
Thána	2,756	102·50	16·09	3,015	18·21	17·60	969	7·38	5·66	885	6·90	5·17	1,138	6·41	6·64	2,107	18·97	12·21	1,831	30·26	10·69	1,772	55·76	10·34	1,658	115·21	9·68	17,131	20·22
Surat	2,568	98·78	16·65	3,487	31·89	22·61	836	9·22	5·42	636	7·25	4·12	1,303	11·62	8·45	1,429	16·96	9.26	1,366	27·31	8·86	1,621	55·15	10·51	2,179	124·41	14·12	15,425	25·40
Broach	1,422	98·10	13·77	2,201	38·74	21·31	485	9·67	4·70	436	8·21	4·22	1,005	14·07	9·73	1,237	24·42	11·98	1,297	43·58	12·56	1,183	71·09	11·46	1,060	146·17	10·27	10,326	29·47
Kaira	4,418	187·73	18·71	4,771	32·92	20·24	1,066	9·05	4·53	866	7·12	3·68	1,918	13·22	8·14	2,228	20·66	9·45	2,560	38·88	10·86	2,619	68·41	11·11	3,129	175·16	13·28	23,570	30·11
Panch Mahás	898	80·64	23·66	774	16·78	20·38	225	5·67	5·93	171	4·68	4·50	331	7·15	8·72	330	10·36	8·69	353	21·62	9·30	389	41·47	10·25	325	96·99	8·56	3,796	15·77
Ahmedabad	2,924	107·29	11·92	4,015	30·23	16·36	1,825	14·30	7·44	2,002	14·47	8·16	2,894	18·33	11·79	2,879	24·60	11·73	3,119	43·71	12·95	2,713	72·28	11·06	2,168	114·05	8·84	24,539	29·58
Karáchi	1,240	81·05	19·51	659	8·22	10·37	301	4·87	4·74	309	5·63	4·87	806	9·80	12·69	856	13·46	13·47	717	21·69	11·29	579	35·25	9·11	886	75·98	13·95	6,353	15·00
Hyderabad	939	33·26	12·77	470	3·23	6·38	327	2·78	4·45	446	4·36	6·07	964	6·59	13·11	1,224	12·57	16·64	1,096	23·30	14·91	871	34·97	11·84	1,017	81·80	13·83	7,354	10·19
Thar and Párkar	416	57·27	18·00	215	7·57	9·29	132	4·13	5·91	161	7·29	6·97	251	8·93	10·87	308	12.09	13·33	252	14·06	10·91	275	30·01	11·90	301	28·95	13·02	2,311	12·79
Shikárpur	952	31·11	14·66	555	3·31	8·55	406	3·70	6·26	461	4·56	7·10	897	5·84	13·82	1,068	9·82	16·46	769	14·27	11·85	610	18·60	9·40	772	43·31	11·90	6,490	8·36
Upper Sind Frontier	65	19·57	10·40	53	2·94	8·48	44	3·12	7·04	50	4·48	8·00	104	6·34	16·64	109	8·49	17·44	79	10·86	12·64	64	14·80	10·24	57	22·45	9·12	625	6·95
Total ..	55,093	94·55	16·76	52,612	18·26	16·01	18,797	7·71	5·72	18,882	8·00	5·75	36,730	11·65	11·17	36,216	16·41	11·02	34,667	25·40	10·55	35,171	44·42	10·70	40,505	89·43	12·32	328,673	20·25

Deaths by Caste or Class.

55. We next come to deaths by caste or class. By the Census the Mahomedans numbered 2,842,762, and amongst them there were 42,647 deaths against 51,461 in 1879. The death-rate for those years were 15·00 and 18·10 respectively. There are 13,110,464 Hindus, and the total of their deaths was 280,556, so their death-rate was 21·40 per 1,000. In 1879 the total was 329,452, and the rate was 25·13 per 1,000. For Christians the total of deaths was 2,231 against 2,609, and the respective rates are 21·00 and 24·60. For all other castes or classes the deaths were 3,239, or 19·11 per 1,000 of their number living. In 1879 there were 4,020 deaths, and the rate was 23·72 per 1,000. For Mahomedans the maximum rate (37·33) was in the City of Bombay, and the minimum (5·35) in Upper Sind Frontier. Amongst Hindus the maximum (32·82) was also in the City of Bombay, and the minimum (11·25) in Thar and Párkar.

Deaths by causes.

56. The next table gives the total deaths from specified causes for each year from 1866, and the annual mean for the last 14 years is contrasted with the total for 1880. The diseases will be dealt with in Section II. :—

Years.	Deaths from.						
	Cholera.	Small-pox.	Fever.	Bowel-complaints.	Injuries.	All other Causes.	Total.
1866	23,027	3,846	94,456	20,289	4,675	39,655	185,948
1867	5,143	8,802	89,841	17,373	4,088	37,749	162,996
1868	6,347	15,183	97,665	19,289	4,163	42,411	185,058
1869	52,330	12,606	129,023	29,938	4,713	55,911	284,521
1870	2,666	4,609	131,034	25,835	4,590	51,032	219,766
1871	5,821	9,403	167,677	30,422	6,279	60,124	279,726
1872	15,642	26,699	206,747	33,664	5,804	67,404	355,960
1873	283	9,935	188,201	26,259	5,951	60,343	290,972
1874	37	3,903	183,717	26,990	6,165	57,840	278,652
1875	47,555	3,461	219,156	33,650	6,217	65,679	375,718
1876	32,117	11,817	220,833	33,683	5,928	63,882	368,260
1877	57,252	27,369	336,865	60,257	7,539	138,426	627,708
1878	46,743	4,475	357,376	41,165	7,550	75,642	532,951
1879	6,937	1,156	286,526	26,349	7,107	59,467	387,542
Total	301,900	143,264	2,709,117	425,163	80,769	875,565	4,535,778
Mean Deaths for 14 years	21,564	10,233	193,508	30,369	5,769	62,541	323,984
Ratio per 1,000 of Population	1·33	0·63	11·92	1·87	0·36	3·85	19·96
1880	684	940	246,779	24,452	6,082	49,736	328,673
Ratio per 1,000 of Population	0·04	0·06	15·21	1·51	0·37	3·06	20·25

N.B.—In 1873 11,097 deaths took place in Shikárpur District, the details of which were imperfect.

Deaths by months.

57. The deaths by months from 1866 to 1880 are shown in the following table, and it will be seen that in 1880 the greatest number occurred in January, and the least in June. In 1879 the greatest number was in November, and the least in April. The mean for the 14 years ending with 1879 shows that the maximum was in August and the minimum in February :—

Years.	Number of Deaths from all Causes.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1866	14,485	14,104	16,416	15,331	17,357	15,347	14,217	19,740	16,818	15,120	14,384	12,659	185,948
1867	13,173	11,615	12,767	12,801	13,162	11,929	12,684	16,375	14,818	13,716	15,313	14,643	162,996
1868	14,158	13,863	15,826	13,863	13,930	13,575	15,129	16,244	15,666	17,364	17,661	17,789	185,058
1869	16,792	15,997	20,958	26,849	29,346	27,358	31,143	25,722	23,375	23,392	22,809	20,780	284,521
1870	16,868	14,685	15,342	14,679	15,157	14,300	16,051	20,218	21,845	22,558	23,978	24,105	219,766
1871	21,326	19,741	22,703	22,919	22,418	23,115	24,035	25,091	23,813	24,857	24,598	25,110	279,726
1872	27,347	27,290	30,020	28,738	27,645	30,162	33,733	38,964	33,584	29,936	32,811	26,827	367,057
1873	28,891	21,590	24,081	21,866	22,372	20,392	22,503	24,772	24,925	26,629	26,852	26,149	290,972
1874	24,643	19,999	22,742	20,970	21,015	21,455	22,744	24,410	22,240	25,398	26,832	26,204	278,652
1875	25,908	22,071	23,870	26,490	31,379	36,862	43,274	40,992	33,298	31,020	31,099	29,455	375,718
1876	28,128	26,837	30,225	29,378	30,968	28,169	32,850	35,415	31,284	28,401	31,435	35,170	368,260
1877	87,166	35,375	45,770	47,996	50,453	51,080	61,321	70,183	67,411	59,236	55,207	46,510	627,708
1878	41,763	31,828	34,060	39,674	45,567	45,758	49,412	56,911	52,364	48,263	46,706	40,650	532,961
1879	34,942	28,103	26,935	25,943	28,029	27,585	31,438	35,513	35,293	37,913	40,265	35,588	387,542
Total	345,590	303,073	341,665	347,517	368,798	367,082	410,529	450,550	416,734	403,793	409,900	381,639	4,546,875
Mean for 14 years	24,685	21,648	24,405	24,823	26,343	26,220	29,323	32,182	29,767	28,842	29,279	27,260	324,777
Ratio per 1,000 of Population	1·52	1·33	1·50	1·53	1·62	1·62	1·81	1·98	1·83	1·78	1·80	1·68	20·01
1880	32,239	29,301	30,957	26,191	24,944	22,690	26,117	27,515	25,613	24,967	28,608	29,481	328,673
Ratio per 1,000 of Population	1·98	1·80	1·91	1·61	1·54	1·40	1·60	1·69	1·58	1·54	1·76	1·82	20·25

Diagram showing deaths by months.

58. The accompanying diagram will show the number of deaths in each month in 1880 contrasted with the mean number in each month for the preceding 14 years.

Deaths by Circles.

59. The statistical returns are received from 223 rural circles and 55 town circles and from 7 cantonments in British territories and 9 in quasi-foreign territory. The cantonment of Kolhápur was abandoned as a station for British Troops since April 1880. The statistics for this cantonment prior to April have been omitted as they are incomplete. The aggregate population, by the Census of 1872, of the rural circles is 14,341,379, of the town circles 1,842,615, of the cantonments 44,780, and of the cantonments in quasi-foreign territory 86,549. It will be seen by the subjoined table that the highest recorded death-rate per 1,000 of population is amongst the urban population :—

Districts.	Number of Registration Circles.				Population.				Ratio of Deaths per 1,000 of Population.			
	Rural Circles.	Towns	Cantonments.	Total.	Rural Circles.	Towns.	Cantonments.	Total.	Rural Circles.	Towns.	Cantonments.	Total.
Khándesh	22	4	..	26	985,308	43,334	..	1,028,642	20·54	19·41	..	20·49
Násik	12	2	2	16	689,355	39,897	5,134	734,386	18·98	27·67	27·85	19·52
Ahmednagar	11	2	1	14	727,136	42,819	3,983	773,938	17·58	28·72	22·34	18·22
Poona	8	2	1	11	778,051	100,734	28,450	907,235	14 66	21·49	15·49	15·53
Sholápur	7	3	..	10	629,796	88,238	..	718,034	12·05	38·30	..	15·24
Sátára	12	3	..	15	1,014,046	46,956	..	1,061,002	19·55	21·72	..	19·65
Belgaum	7	3	1	11	882,273	51,147	5,330	938,750	25·11	23·48	27·01	25·03
Dhárwár	14	4	..	18	892,282	95,755	..	988,037	21·84	18·54	..	21·52
Kaládgi	8	1	1	10	809,445	6,592	..	816,037	17·36	21·69	..	17·39
Kánara	11	2	..	13	374,411	24,195	..	398,406	30·54	18·23	..	29·79
Ratnágiri	8	2	..	10	993,526	25,610	..	1,019,136	16·97	14·68	..	16·91
Kolába	6	2	..	8	338,301	12,104	..	350,405	18·12	24·54	..	18·34
Bombay City	..	1	..	1	....	644,405	..	644,405	..	32 39	..	32·39
Thána	11	3	..	14	809,485	37,939	..	847,424	20·40	16·29	..	20·22
Surat	8	2	..	10	488,623	118,464	..	607,087	26·14	22·37	..	25·40
Broach	6	2	..	8	298,466	51,856	..	350,322	31 22	19·40	..	29·47
Kaira	7	4	..	11	719,305	63,428	..	784,733	30·78	22·48	..	30·11
Panch Mahális	5	2	..	7	218,630	22,113	..	240,743	15·35	19·94	..	15·77
Ahmedabad	7	4	1	12	660,795	166.959	1,883	829,637	27·03	39·57	35·05	29·58
Karáchi	13	1	..	14	369,969	53,526	..	423,495	13·80	23·33	..	15·00
Hyderabad	13	1	....	14	686,675	35,272	..	721,947	9·39	25·71	..	10·19
Thar and Párkar ..	7	1	.. ..	8	176,762	3,999	..	180,761	12·67	18·00	..	12·79
Shikárpur	17	3	..	20	714,159	62,068	..	776,227	7·82	14·61	..	8·36
Upper Sind Frontier ..	3	1	..	4	84,780	5,205	..	89,985	5·30	34·39	..	6·95
Total ..	223	55	7	285	14,341,379	1,842,615	44,780	16,228,774	19·30	27·61	21·64	20·25

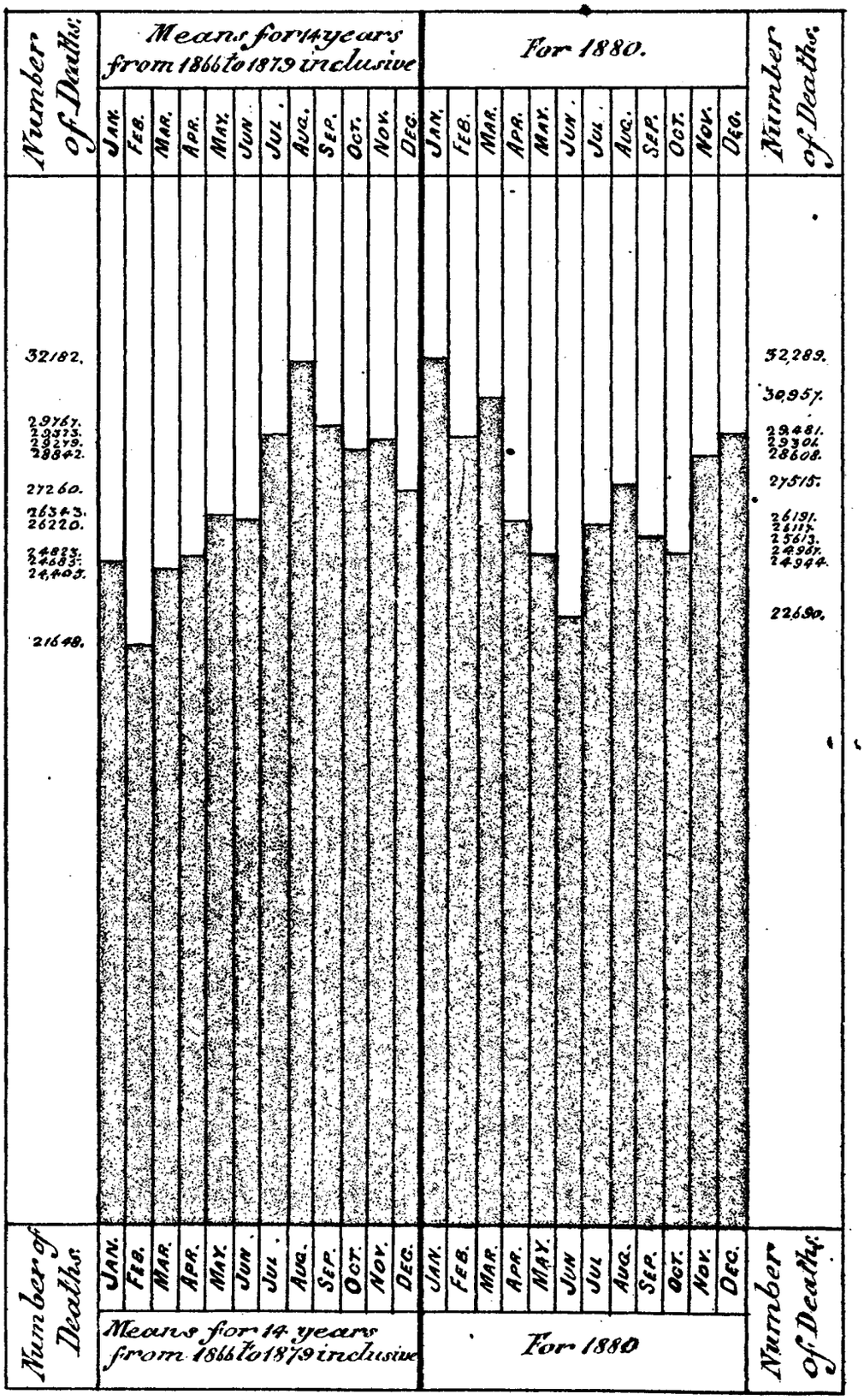
Statistics for Cantonment Bázárs in quasi-foreign territory.

60. The following table shows the births and deaths and their respective ratios per 1,000 of population for those in our cantonment bázárs in quasi-foreign territory. It will be seen that in 1880 the births registered were 1,805 against 1,617 in 1879: there were 934 males and 871 females. The birth-rate per 1,000 of population being 20·85 against 18·54 in 1879. In 5 cantonments out of 9, the birth-rate is higher in this year than 1879. The lower birth-rates are at Aden, 6·53 against 11·41 in 1879; at Baroda, 3·67 against 5·30; at Mhow, 20·18 against 26·15; and at Rájkot, 12·74 against 24·06. The total of deaths was 2,808, and their rate was 32·45 per 1,000. In 1879 there were registered 2,822 deaths, or 32·36 per 1,000. No deaths were reported from cholera, but there were 92 from small-pox and 1,182 from fever. Out of 92 deaths from small-pox, 83 were reported from Nasirabad :—

Stations.	Civil Population.	Area in square miles.	Average Population per square mile.	Number of Deaths.							Ratio per 1,000 of Population.						Births.	Ratio of Births per 1,000 of Population.
				Cholera.	Small-pox.	Fever.	Bowel-complaints.	Injuries.	All other causes.	Total.	Cholera.	Small-pox.	Fever.	Bowel-complaints.	Injuries.	All other causes.	Total.	
Aden	19,289	11·69	1650·04	..	3	357	279	9	408	1,056	..	0·16	18·51	14·46	0·47	21·15	54·75	126	6·53
Baroda	2,451	9·00	272·33	..	..	44	1	1	3	49	..	..	17·95	0·41	0·41	1·22	19·99	9	3·67
Bhúj	991	1·04	952·88	..	1	..	..	..	1	2	..	1·01	..	..	..	1·01	2·02	4	4·04
Deesa	9,335	5·00	1867·00	..	..	62	34	1	64	161	..	..	6·64	3·64	0·11	6·86	17·25	112	12·00
Mehídpur	155	2·50	62·00	..	..	..	1	..	4	5	..	..	..	6·45	..	25·81	32·26	14	90·32
Mhow	22,792	6·50	3506·46	..	5	197	18	7	248	475	..	0·22	8·64	0·79	0·31	10·88	20·84	460	20·18
Neemuch	11,787	4·23	2786·52	..	..	196	..	1	97	294	..	..	46·63	..	0·09	8·23	24·94	195	16·54
Nasirabad	18,336	8·00	2292·00	..	83	319	80	6	268	756	..	4·53	17·40	4·36	0·33	14·61	41·23	867	47·28
Rájkot	1,413	Unknown.		..	..	7	..	..	3	10	..	..	4·95	..	..	2·12	7·07	18	12·74
Total ..	86,549	47·96	2304·61	..	92	1,182	413	25	1,096	2,808	..	1·07	13·66	4·77	0·29	12·66	32·45	1,805	20·85

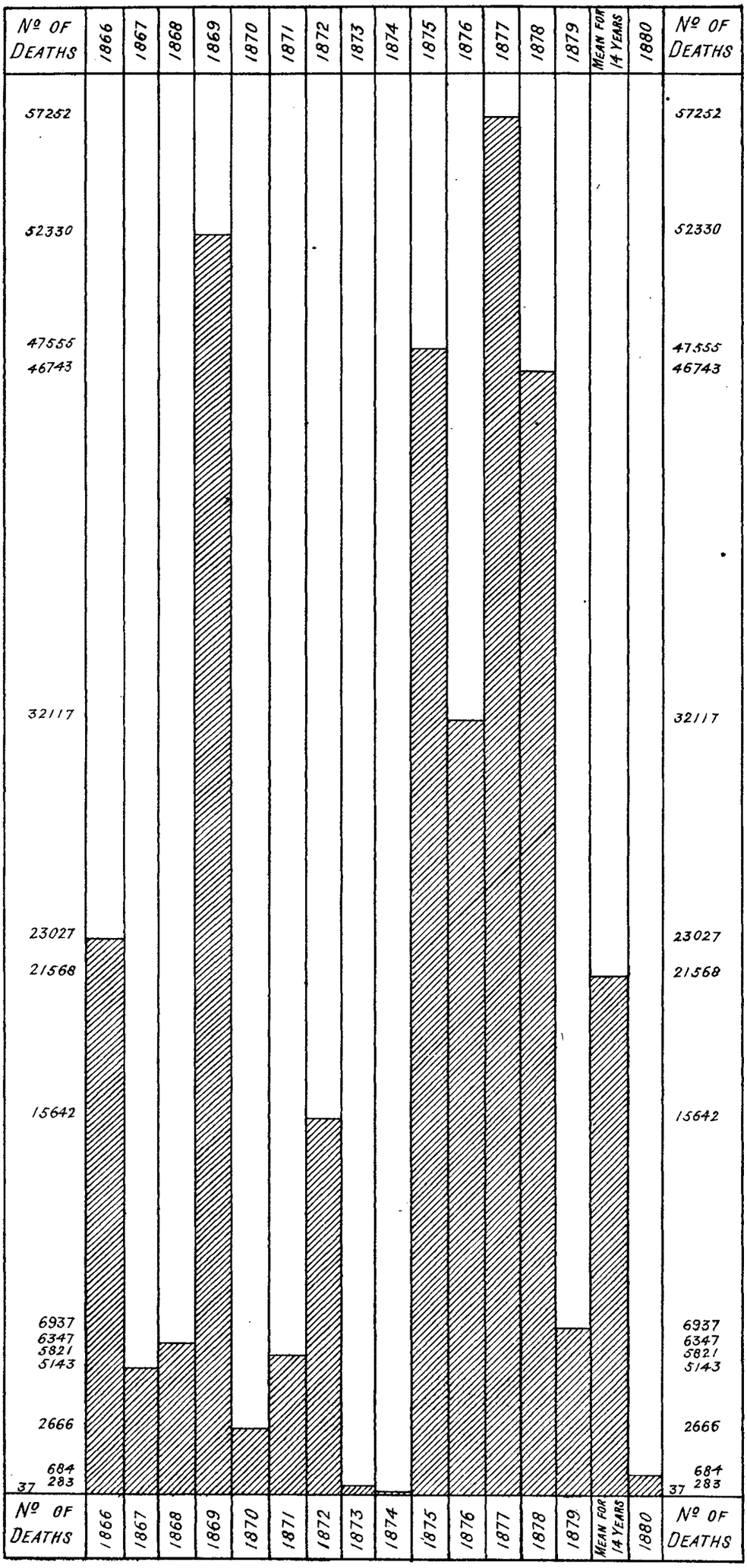
Diagram

Showing the total number of deaths registered in each month in 1880 contrasted with the mean for each month for the preceding 14 years.



Gov^t Photozincographic Office, Poona, 1881

Diagram, showing Cholera Mortality for 15 Years.



Lithographed, Gov^t Photozinco: Office, Poona, 1881.

SECTION II.

HISTORY OF CHIEF DISEASES.

CHOLERA.

61. In next year's Report all calculations will be based upon the results of the Census of 1881; so the old series of tables, running from 1866, will close with those for 1880.

62. The subjoined table shows year by year, and for each district of the Presidency, the total registered mortality from cholera; and the total for the 15th year is so placed as to contrast with the means of the previous 14: a diagram on the opposite page shows the annual variation:—

Divisions.	Number.	Registration Districts or Collectorates.	Population by Census of 1872.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Means for 14 years.	1880.
Northern Deccan.	1	Khándesh	1,028,642	61	37	553	2,632	19	1,339	1,577	..	..	6,224	29	1,694	6,077	136	1,456	..
	2	Násik	734,386	..	..	..	835	53	1,451	1,893	..	..	2,812	333	1,963	871	134	739	55
	3	Ahmednagar ...	773,938	809	88	1,802	437	62	658	1,837	..	..	4,933	1,115	2,760	2,267	186	1,211	11
	4	Poona	907,235	161	9	686	1,706	214	243	3,613	..	2	4,646	719	3,673	3,601	100	1,384	461
	5	Sholápur	718,034	1,841	46	779	2,569	371	280	1,463	..	..	3,536	2,235	1,354	3,074	22	1,255	3
Southern Deccan.	6	Sátára	1,061,002	1,134	33	657	8,157	569	131	1,640	..	..	3,666	1,938	6,702	5,386	..	2,144	14
	7	Belgaum	938,750	1,962	4	363	7,808	302	40	617	16	..	2,736	4,950	8,357	5,757	..	2,351	..
	8	Dhárwár	988,037	11,192	6	2	2,691	1	..	24	17	..	2,288	7,092	8,779	1,790	..	2,420	..
	9	Kaládgi	816,037	3,896	47	320	5,126	62	167	1,760	90	1	1,365	5,072	7,124	2,230	..	1,946	4
Konkan.	10	Kánara	398,406	859	74	66	531	4	..	..	..	..	47	929	2,804	74	..	385	..
	11	Ratnágiri	1,019,136	217	124	159	218	185	663	91	15	..	900	206	3,125	559	26	463	..
	12	Kolába	350,405	..	..	..	111	102	121	116	..	..	1,453	70	1,124	787	180	290	27
	13	Bombay City ...	644,405	332	111	227	754	386	294	191	92	19	834	374	2,510	1,165	323	544	30
	14	Thána	847,424	66	18	469	1,816	181	379	313	..	..	5,969	693	3,337	1,809	770	1,130	70
Gujarát.	15	Surat	607,087	152	10	121	2,098	20	12	454	12	4	965	1,132	978	1,726	509	585	4
	16	Broach	350,322	..	..	10	1,186	9	1	..	..	..	862	746	302	1,027	8	297	..
	17	Kaira	782,733	176	161	87	2,104	63	20	19	16	1	2,104	1,315	205	1,594	129	571	..
	18	Panch Mahals ...	240,743	20	14	13	1,524	6	2	30	3	..	1,089	263	176	4,130	..	519	4
	19	Ahmedabad ...	329,637	140	11	10	2,514	57	20	14	22	10	1,078	2,818	285	2,793	274	718	1
Sind.	20	Karáchi	423,495	8	557	23	3,744	..	..	..	..	..	42	..	..	..	1,175	396	..
	21	Hyderabad	721,947	1	135	..	1,779	..	..	..	..	..	..	..	..	..	1,433	239	..
	22	Thar and Párkar ..	180,761	..	..	..	737	..	..	..	..	..	6	88	..	26	74	67	..
	23	Shikárpur	776,227	..	3,467	..	1,253	..	..	..	..	..	..	..	..	..	1,359	434	..
	24	Upper Sind Frontier	89,985	..	191	..	..	..	..	..	..	..	..	..	..	..	99	21	..

ABSTRACT.

1	Northern Deccan ..	4,162,235	2,872	180	3,820	8,179	719	3,971	10,383	..	2	22,151	4,431	11,444	15,890	578	6,045	330
2	Southern do. ..	3,803,826	18,184	90	1,342	23,782	934	338	4,031	123	1	10,055	19,052	30,962	15,163	..	8,861	18
3	Konkan	3,359,776	1,474	327	921	3,430	858	1,457	711	107	19	9,203	2,272	12,900	4,394	1,299	2,812	127
4	Gujarát	2,810,522	488	196	241	9,426	155	55	517	53	15	6,098	6,274	1,946	11,270	940	2,690	2
5	Sind	2,192,415	9	4,350	23	7,513	..	..	..	..	..	48	88	..	26	4,140	1,157	..
	Total ..	16,228,774	23,027	5,143	6,347	52,330	2,666	5,821	15,642	283	37	47,555	32,117	57,252	46,743	6,937	21,565	684

N. B.—Prior to 1869 Násik was the portion of Khánd e sh and Ahmednagar Districts.
Do. Kolába do. of Thána District.
Deaths from 1866 to 1870 for Bombay City were taken from the Health Officer's Report.
Prior to 1868 Broach was the portion of Surat District.
Deaths from 1866 to 1868 in Ahmedabad District were recorded only for one Táluka (Dáskroi).

63. The total of cholera deaths for the 15 years' period is 302,584, so the annual mortality is at the rate of 20,172; in other words, out of a population numbering 16,228,774 persons, 1 in every 805 died annually from cholera. In the Madras Presidency the total from 1866 to 1879 inclusive is 1,011,791, or 72,271 per year; or 1 in 401 on a population of 28,991,267. In the Bengal Presidency the population in 1872 was returned as 59,965,483, and the cholera deaths from 1870 to 1879 were 885,799—an average of 88,580 per annum,

Total mortality, annual average and proportion of deaths to living.

or 1 in 677. The significance of these figures will be better seen when placed together, and for contrast the same results are given for England :—

	Years.	Enumerated Population in 1872—England 1871.	Total Cholera Mortality.	Annual average.	Annual average Death-rate to Living.
	Inclusive.				
Bengal Presidency ...	1870 to 1879.	59,965,483	885,799	88,580	1 in every 677
Madras	1866 „ 1879.	28,991,267	1,011,791	72,271	1 „ 401
Bombay	1866 „ 1880.	16,228,774	302,584	20,172	1 „ 805
England* ...	1866 „ 1878.	22,712,266	23,663	1,820	1 „ 12,479

*Registrar General's Report for 1878, pp. 231 and 187.

64. The districts that have suffered most are Dhárwár, Belgaum, and Sátára; and in these the recorded means for 14 years are respectively 2,420, 2,351, and 2,144. During the famine year (1877) these means were more than trebled. In the Khándesh, Ahmednagar, Poona, Sholápur, Kaládgi, and Thána Districts the means range between 1,000 and 2,000, and in the remaining districts they are below 1,000. On the Upper Sind Frontier and in Thar and Párkar they are 21 and 67 respectively. In the following table there are shown the deaths per 1,000 of population for the previous 14 years and those for 1880 :—

Divisions.	Number.	Registration Districts or Collectorates.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Means for 14 years.	1880.
Northern Deccan.	1	Khándesh	0·07	0·04	0·54	2·51	0·02	1·40	1·62	..	..	6·05	0·03	1·64	5·91	0·13	1·43	..
	2	Násik	..	..	..	1·31	0·09	2·16	2·81	..	..	3·83	0·44	2·87	1·27	0·19	1·07	0·08
	3	Ahmednagar	6·46	0·07	1·91	0·69	0·09	0·09	2·37	..	..	6·37	1·38	3·57	2·93	0·24	1·87	0·01
	4	Poona	0·24	0·01	1·10	2·35	0·29	0·31	4·25	..	..	5·12	0·76	4·04	3·97	0·11	1·61	0·51
	5	Sholápur	2·90	0·07	1·41	4·51	0·67	4·80	2·56	..	..	4·92	2·99	1·85	4·28	0·03	2·21	..
Southern Deccan.	6	Sátára	1·32	0·04	0·68	8·39	0·59	0·13	1·58	..	..	3·46	1·76	6·32	5·08	..	2·10	0·01
	7	Belgaum	2·77	0·01	0·47	9·87	0·37	0·05	0·66	..	..	2·91	5·07	8·89	6·13	..	2·66	..
	8	Dhárwár	14·32	0·01	..	3·17	..	..	0·03	..	..	2·32	6·90	8·89	1·81	..	2·68	..
	9	Kaládgi	6·92	0·08	0·46	7·31	0·09	0·23	2·31	0·11	..	1·67	5·97	8·73	2·73	..	2·61	0·00
Konkan.	10	Kánara	2·38	0·20	0·18	1·47	0·01	..	..	..	..	0·12	2·24	7·04	6·19	..	1·42	..
	11	Ratnágiri	0·32	0·18	0·23	0·32	0·27	1·00	0·09	..	..	0·88	0·19	3·06	0·55	0·03	0·51	..
	12	Kolába	..	..	..	0·41	0·37	0·39	0·33	..	..	4·15	0·19	3·21	2·25	0·51	0·84	0·08
	13	Bombay City	0·41	0·14	0·28	0·92	0·47	0·36	0·30	0·14	0·03	1·29	0·56	3·89	1·81	0·50	0·79	0·05
	14	Thána	0·07	0·02	0·54	1·96	0·28	0·60	0·37	..	..	7·42	0·79	3·94	2·13	0·91	1·36	0·08
Gujarát.	15	Surat	0·19	0·01	0·25	4·26	0·04	0·02	0·92	0·02	..	1·59	1·79	1·61	2·84	0·83	1·03	0·01
	16	Broach	..	.	0·06	5·44	0·04	..	..	..	..	2·46	2·04	0·86	2·93	0·02	0·99	..
	17	Kaira	0·30	0·27	0·13	3·24	0·10	0·03	0·02	0·02	..	2·69	1·61	0·26	2·03	0·16	0·78	..
	18	Panch Mahâls	0·12	0·08	0·08	9·00	0·03	0·01	0·12	..	..	4·52	1·05	0·73	17·15	..	2·35	0·02
	19	Ahmedabad	0·17	0·01	0·04	3·52	0·08	0·02	0·02	0·03	0·01	1·30	3·26	0·34	3·36	0·33	0·89	0·00
Sind.	20	Karáchi	0·02	1·64	0·07	11·01	..	..	..	..	..	0·10	..	..	..	2·77	1·12	..
	21	Hyderabad	..	0·21	..	3·12	..	..	..	..	..	..	..	..	..	1·99	0·38	..
	22	Thar and Párkar. ..	..	..	..	3·28	..	..	..	..	..	0·03	0·46	..	0·14	0·41	0·31	..
	23	Shikárpur	..	5·33	..	2·28	..	..	..	..	..	..	..	..	..	1·75	0·67	..
	24	Upper Sind Frontier ..	..	3·96	..	..	..	..	..	..	..	..	..	..	..	1·10	0·36	..

ABSTRACT.

1	Northern Division ..	0·69	0·04	0·92	1·97	0·17	0·95	2·49	..	..	5·32	1·06	2·75	3·82	0·14	1·45	0·13
2	Southern do. ..	4·78	0·02	0·35	6·25	0·25	0·09	1·06	0·03	..	2·64	5·01	8·14	3·99	0·00	2·33	0·00
3	Konkan	0·45	0·10	0·28	1·06	0·26	0·45	0·32	0·03	0·00	2·82	0·70	3·96	1·35	0·40	0·86	0·04
4	Gujarát	0·17	0·07	0·09	3·37	0·05	0·02	0·18	0·02	0·00	2·17	2·23	0·69	4·09	0·33	0·96	0·00
5	Sind	0·00	1·98	0·01	3·43	..	..	..	..	..	0·02	0·04	..	0·01	1·89	0·53	..
	Total ..	1·85	0·32	0·50	3·77	0·20	0·41	1·03	0·02	0·01	2·93	1·98	3·54	2·89	0·43	1·43	0·04

N.B.—Prior to 1869 Násik was the portion of Khándesh and Ahmednagar Districts.
Do. Kolába do. Thána District.
Deaths from 1866 to 1870 for Bombay City were taken from the Health Officer's Report.
Prior to 1868 Broach was the portion of Surat District.
Deaths from 1866 to 1868 in Ahmedabad District were recorded only for one Táluka (Dáskroi.)

It will be seen that in all the Southern Deccan Districts, including Sholápur, and in one district of Gujarát (Panch Mahâls), the ratios are between 2 and 3 per 1000, whilst the mean rate for the Presidency is 1·43.

65. For 1880 the total of cholera deaths is 68 4, and for 1879 it was 6,937. The ratios per 1,000 living are respectively 0·04 and 0·43, and the mean for 14 years is 1·43. Out of every 1,000 deaths from all causes in 1880 there were 2 from cholera.

Cholera deaths in 1880.

66. Showing the mortality by the conventional seasons into which the year has been divided, it will be found that 635 out of the 684 deaths occurred in the cold season of 121 days :—

Mortality by seasons.

Years.	Cold Season (121 Days).				Hot and Dry (61 Days).		Rainy Season (122 Days).				Hot and Damp (61 Days).		Total Deaths from Cholera.
	December (31).	January (31).	February (28).	March (31).	April (30).	May (31).	June (30).	July (31).	August (31).	September (30).	October (31).	November (30).	
1866	82	160	1,026	2,486	2,706	4,107	3,905	2,036	3,600	2,043	748	128	23,027
1867	201	56	76	53	86	64	97	216	2,507	1,386	314	87	5,143
1868	452	64	60	60	61	70	79	405	871	1,287	1,890	1,048	6,347
1869	278	1,039	999	1,676	6,466	9,761	9,566	9,818	4,443	3,433	3,734	1,117	52,330
1870	453	62	25	30	25	56	67	41	158	265	586	898	2,666
1871	181	351	237	174	137	591	804	1,005	1,014	555	598	174	5,821
1872	71	61	82	113	237	1,098	3,127	3,932	3,991	2,145	611	174	15,642
1873	2	61	100	35	34	24	10	6	8	8	8	2	288
1874	..	2	..	4	8	13	1	3	1	3	2	..	37
1875	819	1	1	10	795	5,359	10,374	12,906	8,609	3,493	3,548	1,640	47,555
1876	2,087	899	1,453	3,519	3,773	5,312	4,168	4,423	3,371	1,421	858	833	32,117
1877	797	3,734	4,488	6,887	8,114	8,299	8,320	7,673	5,143	1,874	1,110	813	57,252
1878	88	735	616	1,586	6,415	9,964	10,950	7,891	5,928	1,882	434	254	46,743
1879	173	78	18	21	64	1,176	2,684	1,038	510	401	541	183	6,937
Means for 14 years	406	522	656	1,189	2,066	3,278	3,868	3,675	2,868	1,442	1,070	525	21,565
1880	92	418	110	15	18	4	2	2	8	10	8	2	684

ABSTRACT.

Seasons.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Means for 14 years.	1880.
Cold (121 Days).	3,754	386	636	3,992	570	943	327	198	6	831	7,958	15,906	3,025	290	2,774	635
Hot and Dry (61 Days)	6,813	150	131	16,227	81	728	1,335	58	21	6,154	9,085	16,413	16,379	1,240	5,344	22
Rainy (122 Days)	11,584	4,206	2,642	27,260	531	3,378	13,195	22	8	35,382	13,383	23,010	26,651	4,683	11,852	22
Hot and Damp (61 Days) ..	876	401	2,938	4,851	1,484	772	785	5	2	5,188	1,691	1,923	688	724	1,595	5
Total ..	23,027	5,143	6,347	52,330	2,666	5,821	15,642	283	37	47,555	32,117	57,252	46,743	6,937	21,565	684

67. During the first quarter of the year the disease was confined to the City of Bombay and the Districts of Násik, Poona, Thána, and Surat; and, out of 698 attacks, there were 543 deaths—a percentage of 77·80. The maximum mortality was 418 in January. In the second quarter there were only 26 fresh cases, but 24 of them ended fatally—just 92·31 per cent. In the third quarter there were 53 attacks and 20 deaths, the percentage being 37·72. In the fourth quarter the attacks and deaths were 194 and 97 respectively, or 50 per cent. At the close of the year the affected districts were Ahmednagar, Poona, Sholápur, Sátára, Kaládgi, Kolába, and the City of Bombay.

By quarters.

68. The next table shows the mortality by months for each year from 1866 to 1880 inclusive, and the mean of 14 years is so placed as to contrast with the totals for the 15th.

By months.

There are also given the ratios per 1,000 of population, and the number of cholera deaths in every 1,000 from all causes:—

Months.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Means for 14 years.	1880.
January	160	56	64	1,039	62	351	61	61	2	1	899	3,734	735	78	522	418
February	1,026	76	60	999	25	237	82	100	..	1	1,453	4,488	616	18	656	110
March	2,486	53	60	1,676	8	174	113	35	4	10	3,519	6,887	1,586	21	1,189	15
April	2,706	86	61	6,466	25	137	237	34	8	795	3,773	8,114	6,415	64	2,066	18
May	4,107	64	70	9,761	56	591	1,098	24	18	5,359	5,312	8,299	9,964	1,176	3,278	4
June	3,905	97	79	9,566	67	804	3,127	10	1	10,374	4,168	8,320	10,950	2,684	3,868	2
July	2,036	216	405	9,818	41	1,005	3,932	6	3	12,906	4,423	7,673	7,891	1,088	3,675	2
August	3,600	2,507	871	4,443	158	1,014	3,991	3	1	8,609	3,371	5,143	5,928	510	2,863	8
September	2,043	1,386	1,287	3,433	265	555	2,145	3	3	3,493	1,421	1,874	1,882	401	1,441	10
October	748	314	1,890	3,734	586	598	611	3	2	3,548	858	1,110	434	541	1,070	3
November	128	87	1,048	1,117	898	174	174	2	..	1,640	833	813	254	183	525	2
December	82	201	452	278	453	181	71	2	..	819	2,087	797	89	173	406	92
Total ..	23,027	5,143	6,347	52,330	2,666	5,821	15,642	283	37	47,555	32,117	57,252	46,743	6,937	21,565	684
Ratio per 1,000 of population	1·85	0·32	0·50	3·77	0·20	0·41	1·03	0·02	0·01	2·93	1·98	3·54	2·89	0·43	1·43	0·04
Out of every 1,000 deaths from *all causes* there died from cholera	124	32	85	184	12	21	44	1	..	126	87	91	88	18	62	2

69. In the diagram given on the opposite page there is shown the mean cholera mortality by months from 1866 to 1879 inclusive, and the numbers for the 15th year.

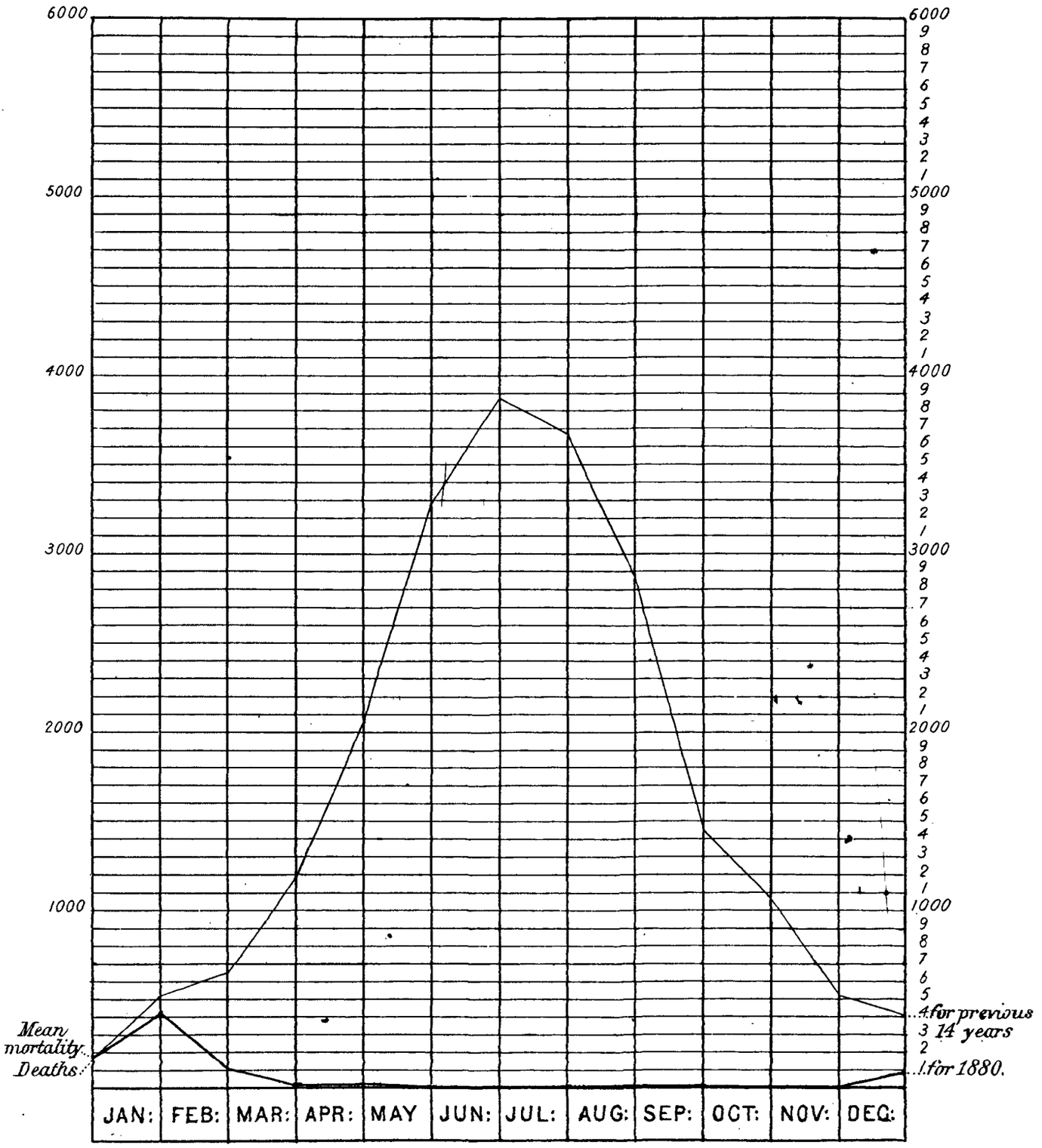
70. The next table shows the enumerated population of each district affected, the deaths by months in each, and for the Presidency generally, the ratio per 1,000 living, and the means for 14 years. It will be seen that the ratios in the undermentioned districts are below the mean:—

Population.	16,28,877	734,3.	773,988.	907,235	718,034	1,061,302	816,087	350,405.	644,403	847,424	607,087	240,748	829,697
Months.	Total Deaths Presidency.	Sólk.	Ahmednagar.	Poona.	Sholápur.	Sátára.	Kaládgi.	Kolába.	Bombay City.	Thána.	Surat.	Panch Mahals.	Ahmedabad.
January	418	...	...	388	...	...	...	...	8	22	...	...	...
February	110	44	...	20	...	...	...	...	6	40	...	...	...
March	15	...	...	6	...	...	...	...	3	4	2	...	...
April	18	...	...	12	...	...	...	...	2	4	...	...	...
May	4	...	...	...	...	...	...	...	2	...	1	1	...
June	2	...	...	...	...	...	...	...	2	...	...	...	...
July	2	...	...	...	...	...	...	...	1	...	1	...	...
August	8	4	...	...	...	...	...	...	1	...	...	3	...
September	10	7	2	...	...	...	...	...	1	...	...	...	...
October	3	...	...	...	...	...	...	...	2	...	...	...	1
November	2	...	...	1	...	...	...	...	1	...	...	...	...
December	92	..	9	34	3	14	4	27	1	...	...	...	...
Total ...	684	55	11	461	3	14	4	27	30	70	4	4	1
Ratio of deaths per 1,000 of population ...	0·04	0·08	0·01	0·51	0·00	0·01	0·00	0·08	0·05	0·08	0·01	0·02	0·00
Mean for 14 years ...	1·42	1·07	1·87	1·61	2·21	2·10	2·61	0·84	0·79	1·36	1·03	2·35	0·89

January.

71. At the close of 1879 the only districts in the Presidency where there was cholera were Poona, Kolába, Bombay City, and Thána; but on the 31st December 1879 it disappeared from the Kolába Collectorate. In the Poona Collectorate it was as it were continued from last year, and the first of the month saw it in Poona City, Parvati and

Diagram shewing, for the Bombay Presidency, the mortality from Cholera for 1880, and the mean mortality for the previous 14 years.



Lithographed Gov^t Photozinco Office, Poona. 1881.

Donje. The two latter are villages in the Haveli Táluka, the former well known, and the latter on the road between Khadakvásla and Sinhgad. On the 3rd it appeared in a village in the adjoining Khed Táluka, occasioning 1 death out of 3 attacks. From this to the 31st it continued in Poona City and the surrounding villages of its táluka. On the 15th it appeared in the Cantonment, and by the end of the month 19 persons had died there. By the 19th it had spread to Mával Táluka, attacking one of its villages, and causing 15 deaths; the record for the whole district was for the month 465 attacks and 388 deaths. On the 3rd the first case took place in Bombay City, and between the 3rd and the 24th there were 17 attacks and 8 deaths. In the Thána District no cholera was reported till the 15th, but on that day it appeared in Adiwali—a village in the Karjat Táluka, and here there were 7 cases and 5 deaths. From the 18th to 27th three other villages in the same táluka were attacked, the attacks and deaths being 32 and 17 respectively. The attacks and deaths for the month were 521 and 418, the percentage of the latter to the former being 80·23, whilst their percentage to the total of deaths from all causes was 1·22. The average number of deaths from cholera for the previous 14 Januaries was 522.

February.

72. On the 1st February cholera continued in Koosgaon—the only village affected last month in the Mával Táluka of the Poona Collectorate. It also continued in Poona City and in the Cantonment, and during this month it appeared in two other villages—Nygaon and Bose in the Mával Táluka, the attacks and deaths for the month in this collectorate being 22 and 20 respectively. In Bombay City also the disease continued from the previous month, and there were 11 fresh cases with 6 deaths. In the Thána District cholera continued in 3 villages and appeared in 1—Kosape in the Karjat Táluka: there were 52 cases and 40 deaths reported. A very severe outbreak was reported on the 1st in Talegaon—a village of the Igatpuri Táluka in the Násik Collectorate, and between the 1st and 19th there were 66 attacks and 44 deaths. On the 3rd there was one cholera case recorded in the town of Surat, but it was not fatal. The attacks and deaths for the month were 152 and 110, and the percentage of the latter to the former was 72·37, whilst their percentage to the total of deaths from all causes was 3·75—the mean for 14 years for the same month being 656.

March.

73. On the 1st March cholera appeared in Waki, a village of 80 inhabitants, in the Khed Táluka of the Poona District, and here, between the 1st and 9th, 8 persons were attacked and 6 died. On the 4th it appeared in Chanvai, a village in the Bulsár Táluka of the Surat District, where 6 cases and 2 deaths were recorded. In Bombay City it continued, and there were 3 deaths out of 4 fresh attacks. On the 27th the first case occurred in the town of Thána, and between this date and the 31st there were 7 attacks and 4 deaths. Thus for the month the attacks and deaths were respectively 25 and 15; the percentage of the latter to the former was 60, and their percentage to deaths from all causes was 0·05. The average monthly mortality from cholera for the previous 14 years was 1,189.

April.

74. In April cholera continued in the town of Thána and in the City of Bombay. There were 4 attacks and 4 deaths in the former place, and 3 attacks and 2 deaths in the latter. On the 2nd the disease appeared in a village of 503 inhabitants (Kolyd) in the Khed Táluka of the Poona Collectorate, and 12 persons were attacked and died on that day. For the month, then, there were 19 attacks and 18 deaths, the percentage of the latter to the former was 94·74, whilst their percentage to the total deaths from all causes was 0·07. The average monthly mortality from cholera for the previous 14 years was 2,066.

May.

75. In May cholera was present in Bombay City, and 2 persons were attacked and died. The disease had ceased in the town of Surat in February, but it re-appeared on the 12th, and there was one fatal case. On the 14th it appeared for the first time in Godhra, a town in the Panch Maháls, and here also one fatal case occurred. For the month there were 4 attacks and 4 deaths. The percentage of cholera deaths to total of all causes was 0·02, and the mean deaths for the month were 3,278.

76. In June no fresh areas were invaded, but the disease continued in the City of Bombay, where there were 3 attacks and 2 deaths; the percentage of the latter to the former was 66·67; their percentage to the total deaths from all causes was 0·01; the mean for the month being 3,868.

June.

77. During July cholera still continued in Bombay City, and 3 cases and 1 death took place. In the town of Surat it re-appeared for the third time, and one fatal case occurred on the 8th. Thus, the total for the month was 4 attacks and 2 deaths, and the percentage of the latter to the former was 50, whilst their percentage to the total of deaths from all causes was 0·01; the mean deaths for the month were 3,675.

July.

78. In August there was one fatal case on the 31st in Bombay City. In the Násik Collectorate a fresh village was attacked in the Niphád Táluka (Chatori), and between the 25th and 31st there were 11 attacks and 4 deaths. On the 7th it appeared in Derol, a small village of 1,294 inhabitants, in the Kálol Táluka of the Panch Maháls, and between the 7th and 16th there were 14 attacks and 3 deaths. The monthly attacks and deaths were 26 and 8 respectively, and the percentage of the latter to the former was 30·77, whilst their percentage to the total of deaths from all causes was 0·03. The mean deaths for the month were 2,868.

August.

79. In September cholera continued from the previous month in one village in the Niphád Táluka of the Násik Collectorate. In another village, in the same táluka (Malikore), it appeared on the 8th. The total of attacks and deaths in these two villages was collectively 15 and 7. In the Ahmednagar District it appeared for the first time in the village of Poontambe in the Kopargaon Táluka, and here, between the 25th and 29th, there were 7 attacks and 2 deaths. In Bombay City one fatal case occurred on the 26th. For this month there were 23 attacks and 10 deaths, the percentage of the latter to the former being 43·50, whilst their percentage to the total of deaths from all causes was 0·04. The 14 years' monthly mean was 1,442.

September.

80. In October cholera visited a small village in the Gogha Táluka of the Ahmedabad Collectorate, and one case, which ended fatally, was reported on the 12th. On the 8th there were 2 fatal cases in the City of Bombay. In all there were 3 fatal cases during the month, and their percentage to deaths from all causes was 0·01. The mean mortality from cholera for the month was 1,070.

October.

81. In November the disease continued in Bombay City, but only one fresh case occurred, which ended fatally on the 21st. In Poona City cholera re-appeared after having been absent from April, and there was one fatal case. The total for the month was 2 attacks and 2 deaths. The percentage of cholera deaths to total deaths from all causes was 0·01, and the mean deaths for the month were 525.

November.

82. On the 5th December cholera appeared in 2 villages of the Sangameshvar Táluka in the Ahmednagar District, and there were 32 cases and 9 deaths. In the Poona Collectorate the disease continued somewhat severely in the city as well as in a village in the Purandhar Táluka: the attacks and deaths for the month in the district were 61 and 34. The disease appeared for the first time during the year in single village of the Sholápur, Sátára and Kaládgi Collectorates on the 1st, 11th, and 20th, and the attacks and deaths were respectively 5 and 3, 36 and 14, and 6 and 4. In Bombay City one fatal case occurred on the 19th. In the Kolába Collectorate the disease made its appearance on the 12th, and spread to 5 villages in the Mahád and Pen Tálukas; and between the 12th and 31st there were 48 attacks and 27 deaths The attacks and deaths for the month were 189 and 92, and the percentage of the latter to the former was 48·68. The mean mortality for the month was 406.

December.

83. The details here given month by month will be found in the subjoined table, which shows for each month the attacks and deaths from cholera and the total

of deaths from all causes; it also gives the percentage of cholera deaths to attacks and to total deaths :—

Months.	Number of attacks by Cholera.	Number of Deaths from		Percentage of Cholera Deaths to	
		Cholera.	All Causes.	Attacks.	Deaths from all Causes.
January	521	418	32,289	80·23	1·22
February	152	110	29,301	72·37	3·75
March	25	15	30,957	60·00	0·05
April	19	18	26,191	94·74	0 07
May	4	4	24,944	100·00	0·02
June	3	2	22,690	66·67	0·01
July	4	2	26,117	50·00	0·01
August	26	8	27,515	30·77	0·03
September	23	10	25,613	43·50	0·04
October	3	3	24,967	100·00	0·01
November	2	2	28,608	100·00	0·01
December	189	92	29,481	48·68	0·31
Total ...	971	684	328,673	70·44	0·21

Mortality and ratios for the Presidency generally.

84. Of our 285 Registration Circles 23 were affected, and the total mortality was 684. These deaths were distributed over 12 districts and 46 units of registration. Of the 684 deaths 351 were of males and 333 were of females, so for every 100 males who died there died 95 females. The ratio per 1,000 of cholera deaths to the population of the Presidency was 0·04. Of males dying to males living it was 0·04, and of females dying to females living it was 0·04. Last year these ratios were 0·47 and 0·38. The following table shows the Registration Circles affected during the year, and it will be seen that out of 223 Rural Circles, 55 Town Circles, and 7 Civil Cantonment Circles, 17, 5 and 1 were affected. Out of 37,697 villages 40 were affected :—

Division.		Districts.	Total Number of Registration Circles and their collective Population.					Number of Circles and their Population affected by Cholera.					Percentage of affected Population to Total Population.
			Tálukas or R.C.	Towns or T.C.	Cantonment or Ct.C.	Villages or Units.	Population.	Tálukas or R.C.	Towns or T.C.	Cantonment or Ct.C.	Villages or Units.	Population.	
Northern Deccan.	1	Khándesh	22	4	..	2,625	1,028,642	..	..	..	..	..	..
	2	Násik	12	2	2	1,629	734,386	2	..	..	3	6,439	0·88
	3	Ahmednagar	11	2	1	1,342	773,938	2	..	..	3	6,531	0·89
	4	Poona	8	2	1	1,184	907,235	4	1	1	18	136,173	15·01
	5	Sholápur	7	3	..	716	718,034	1	..	..	1	544	0·08
Southern Deccan.	6	Sátára	12	3	..	1,352	1,061,002	1	..	..	1	499	0·05
	7	Belgaum	7	3	1	1,085	938,750	..	..	..	..	..	..
	8	Dhárwár	14	4	..	1,413	988,037	..	..	..	..	..	..
	9	Kaládgi	8	1	1	1,201	816,037	1	..	..	1	1,241	0·15
Konkan.	10	Kánara	11	2	..	972	398,406	..	..	..	..	..	..
	11	Ratnágiri	8	2	..	1,249	1,019,136	..	..	..	..	..	..
	12	Kolába	6	2	..	965	350,405	2	..	..	5	2,522	0·72
	13	Bombay City	...	* 1	..	..	644,405	..	1	.	..	644,405	100·00
	14	Thána	11	* 3	..	2,119	847,424	1	1	...	5	15,387	1·81
Gujarát.	15	Surat	8	2	..	778	607,087	1	1	..	1	108,378	17·85
	16	Broach	6	2	..	405	350,322	..	..	..	..	..	..
	17	Kaira	7	4	..	585	782,733	..	..	..	..	..	..
	18	Panch Mahals	5	2	..	663	240,743	1	1	..	1	11,935	4·96
	19	Ahmedabad	7	4	1	881	829,637	1	..	..	1	543	0·07
Sind.	20	Karáchi	13	1	..	3,328	423,495	..	..	..	..	..	..
	21	Hyderabad	13	1	..	5,967	721,947	..	..	..	..	..	..
	22	Thar and Párkar ..	7	1	..	1,585	180,761	..	..	..	..	..	..
	23	Shikárpur	17	3	..	4,638	776,227	..	..	..	..	..	..
	24	Upper Sind Frontier ..	3	* 1	..	1,015	89,985	..	..	..	..	..	..
		Total ..	223	55	7	37,697	16,228,774	17	5	1	40	934,597	5·76

* This is a Town and Cantonment Circle.

Mortality by Divisions.

85. In the Northern Deccan Division 4 out of 5 districts were invaded, and the attacks and deaths were 705 and 530 against 1,220 and 578 in 1879, and had it not been for the Poona Collectorate contribution of 569 attacks and 461 deaths (its chief town being the centre of diffusion), the returns for the Division would have been insignificant; the Khándesh District escaped. In the Southern Deccan, the Sátára and Kaládgi Districts were affected, but only 42 cases with 18 deaths were recorded. The Belgaum and Dhárwár Districts escaped. There was no cholera last year in this Division. In the Konkan Division the Kánara and Ratnágiri Districts were free, and in the remaining 3 districts (Kolába, Bombay City and Thána) there were 199 attacks and 127 deaths against 2,051 and 1,299 in 1879. Very few cases were reported from the districts of Surat, Panch Maháls, and Ahmedabad in the Gujarát Division—only 25 attacks and 9 deaths against 1,838 and 920 last year. The remaining two districts of this Division (Broach and Kaira) and the whole of Sind were free during the year.

Mortality by Sexes.

86. The next table gives the mortality by sexes and the ratios of deaths per 1,000 of population, with a 14 years' mean ratio. The female deaths exceed male deaths in the 3 districts of Ahmednagar, Sátára and Sholápur, whilst in the remaining 9 districts the case is the reverse. It will also be seen that the 14 years' mean ratio is everywhere higher than the mean for the year.

Mortality by Districts.

87. Coming now to mortality by districts, it will be seen that though 12 out of 24 were affected, the visitation was slight this year. The maximum mortality was in the Poona District; it was 461—a ratio of 0·51 per 1,000. The districts in which the mortality was highest are shown in sequence in the following table, and there are also shown the population, the deaths by sexes, and the death-rates as well for 1880 as for the 14 years' period, from 1866 to 1879 inclusive :—

Number.	Districts.	Population by Census of 1872.			Deaths from Cholera.			Ratio of Deaths per 1,000 of Population.			Mean ratio per 1,000 of previous 14 years.
		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	
1	Poona	466,757	440,478	907,235	232	229	461	0·49	0·52	0·51	1·61
2	Násik	376,851	357,535	734,386	29	26	55	0·08	0·07	0·08	1·07
3	Kolába	178,047	172,358	350,405	14	13	27	0·08	0·08	0·08	0·84
4	Thána	439,176	408,248	847,224	35	35	70	0·08	0·09	0·08	1·36
5	Bombay City	399,716	244,689	644,405	21	9	30	0·05	0·04	0·05	0·79
6	Panch Maháls	126,304	114,439	240,743	2	2	4	0·02	0·02	0·02	2·35
7	Ahmednagar	395,336	378,602	773,938	5	6	11	0·01	0·02	0·01	1·87
8	Sátára	539,356	521,646	1,061,002	6	8	14	0·01	0·01	0·01	2·10
9	Surat	304,246	302,841	607,087	3	1	4	0·01	0 00	0·01	1·93
10	Sholápur	369,272	348,762	718,034	..	3	3	..	0·01	0·00	2·21
11	Kaládgi	417,638	398,399	816,037	3	1	4	0·01	0·00	0·00	2·61
12	Ahmedabad	438,759	390,878	829,637	1	..	1	0·00	..	0·00	0·89

Násik.

88. On the 1st February a sudden outbreak was reported at Talegáon, a village of 2,811 inhabitants, in the Igatpuri Táluka of the Násik Collectorate; and between the 1st and 19th there were 66 attacks and 44 deaths. In August it appeared in one village of Niphád Táluka, and the attacks and deaths were 11 and 4. In September it continued in one village, and appeared afresh in another in the same táluka, and the attacks and deaths for the month were 15 and 7; the last fatal case of the year occurred on the 12th September at Malsakore, a village of 788 inhabitants, in the Niphád Táluka. The affected area included 2 out of 12 tálukas and 3 out of 1,629 villages, and the population of this area is 6,439, that of the District being 734,386; so their proportion to the greater number is 0·88 per cent. The attacks and deaths for the district during the year were 92 and 55; the percentage of the latter to the former was 59·78, and their ratio to the district population was 0·08 per 1,000. The deaths from all causes were 14,334, and those from cholera 55.

The first intimation of this outbreak was received on the 7th February from the Consulting Engineer for Railways, and the Collector of Násik wrote that up to the evening of the 7th there were 59 attacks and 38 deaths. As the water of certain wells was suspected, the Analyst was sent up to examine them, and the results are here given :—

Date.	Source.	Grains per Gallon.		Parts per Million.		Sediment, &c.	Quality.
		Total Solids.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.		
16th April 1880 ..	Stand-pipe	5·6	0·56	0·005	0·17	Scanty—vegetable debris ; paramecia.	Fair.
17th do. ...	Well No. 1 near Mutton Market.	14·	1·82	0·06	0·15	Scanty—vegetable debris ; paramecia, rotifers.	Bad.
18th do. ...	Do. 2 (Chirunji's).	24·8	3·38	0·32	0·25	Copious—vegetable debris ; paramecia, rotifers.	Do.
19th do. ..	Do. 3 (Kalyan Sewjee's).	20·6	2·4	0·08	0·21	Scanty—vegetable debris ; paramecia ; monads, rotifers.	Do.

A previous analysis had been made by the Chemical Analyser to Government, and the samples examined were pronounced to be unwholesome nature. The following is the analysis.

Results of the examination of three samples of well water from Igatpuri, marked respectively No. 1, No. 2, and No. 3 :—

	1	2	3
Grains per gallon—			
Total solids	14·0	24·5	20·3
Chlorine	1·82	3·36	2·38
Parts per million—			
Free ammonia...	0·16	0·00	0·16
Albuminoid do.	0·07	0·12	0·10

Sediments—Small in amount, chiefly vegitable debris, confervæ, diatoms and paramecias; one or two rotifers observed in the sediment No. 3.

The Collector of Násik spoke of it as—

"(1) A spontaneous outbreak which could not be traced to any outer infection.

"(2) It was most virulent, there having been 48 deaths out of 66 cases.

"(3) It subsided almost as suddenly as it arose.

"(4) The sufferers mostly all lived in one row of houses. They were not low-caste people, but men receiving good regular wages, and presumably well fed, and eaters of grain chiefly.

"(5) There were no fruits or bad vegetables in the market, and suspicion can only point to the use of a certain well. After it was closed, and the Railway tank water resorted to, the epidemic began to subside at once."

He says it was also brought to his notice that, during the outbreak, every bird disappeared. There was no defective drainage or accumulation of filth anywhere near the houses that were attacked, and altogether the case seems a singular one. Now with all deference the failure to trace the cause of the disease must not be accepted as a proof of spontaneity, and seeing that Igatpuri is such a railway centre, it may be that it was introduced in the earlier stage of premonitory diarrhœa, or in one or other of the many baffling ways in which it does enter a place. Dr. Sullivan, the Medical Officer of the Railway Company, said he had made very careful inquiry into the history of the first case, but could not find that it was due to outer infection : he added that it would have been impossible to show it to have been spontaneous. He said that "the mortality, though high, was not exceptional," and the phenomenon of the disappearance of the birds was neither observed by him nor brought to his notice. If, however, they did disappear, might it not be put down to the increased movement attending the various measures of precaution, the cleansing, and sweeping, the using of

Candy's fluid and carbolic acid, the fumigation with sulphur and pitch. These would naturally disturb and drive away the birds, and it is a reasonable explanation.

Ahmednagar.

89. In the Ahmednagar Collectorate, the first case of cholera was reported on the 25th September, and between the 25th and the 29th there were 7 cases and 2 deaths. There was no cholera in October and November, but in December it appeared in two villages of the Sangamner Táluka, the total for the month being 32 attacks and 9 deaths. The last case of the year occurred on the 22nd December in Heewargaon—a village of 554 inhabitants in the Sangamner Táluka. The affected area included 2 out of 11 tálukas and 3 out of 1,342 villages, and the population of this area is 6,531, that of the district being 773,938, so their proportion to the greater number is 0·89 per cent. The attacks and deaths for the district during the year were 39 and 11—the percentage of the latter to the former was 28·20, and their ratio to the district population is 0·01 per 1,000. The deaths from all causes were 14,102, and those from cholera 11. As regards the December outbreak the Collector of Ahmednagar writes as follows :—

"One man out of a certain number of pilgrims belonging to the villages of Heewargaon, Pansa and Bota, in the Sangamner Táluka, was attacked with cholera on the 5th December at the village of Ale, in the Jámner Táluka of the Poona District, while the pilgrims were returning from the Alandi Fair in that district. These men halted at Bota, a village in the Sangamner Táluka on the Násik and Poona road, on the 5th. Those that belonged to Heewargaon Pansa proceeded to their villages early in the morning of the 6th December, on which date 4 men belonging to Bota were attacked: of these 2 died on the same date, and the other 2 recovered. On the 7th 4 were attacked, of whom 2 died on the same date, and the rest recovered. One fresh case occurred on the 10th and one on the 11th, both these proved fatal. At Heewargaon the man who was first attacked recovered, but the other men belonging to the village were attacked, &c."

Poona.

90. In the Poona Collectorate cholera continued from the previous year, and on the 1st January it was present in two villages—of the Haveli Táluka and in Poona City. It soon spread to other tálukas—Mával and Khed and to the Cantonment of Poona and Kirkee—the attacks and deaths for the month were 465 and 388. In February it remained in 3 registration circles (Mával Táluka, Poona City, and Poona and Kirkee Cantonment); the total for the month was 22 attacks and 20 deaths. In March it was confined to one village of the Khed Táluka, and there were 8 fresh cases and 6 deaths. In April it continued in the Khed Táluka, and there were 12 fatal cases from May to October inclusive; the district was free, but in November it re-appeared in Poona City, and one fatal case occurred on the 30th. In December the disease spread in the Purandhar Táluka, and the attacks and deaths were 61 and 34. The last case of the year occurred on the 31st December at Kikvi—a village in the Purandhar Táluka. The affected area included 4 out of 8 tálukas, 1 out of 2 towns, and 1 cantonment (there is only one), and 18 out of 1,184 villages; and the population of this area is 136,173; that of the district being 907,235: so their proportion to the greater number is 15·01 per cent. The attacks and deaths for the district during the year were 569 and 461; the percentage of the latter to the former was 81·02, and their ratio to the district population is 0·51 per 1,000. The deaths from all causes were 14,094, and those from cholera 461. The outbreak which took place in Poona City about Christmas of 1879, and which was traced to Alandi Fair in the last annual report, continued with intensity into the year under report, as may be seen from its high death-rate in January. It then abated month by month, and ceased in April, but re-appeared at the close of the year.

Sholápur.

91. The Sholápur District was free from cholera until the 1st of December, and the first case was then reported from Wassude, a village of 544 inhabitants in the Sángola Táluka, and between the 1st and 10th, on which the last case occurred, there were 5 attacks and 3 deaths. The affected area included 1 out of 7 tálukas and 1 out of 716 villages. The population of this area is 544, that of the District being 718,034; so their proportion to the greater number is 0·08 per cent. The attacks and deaths were 5 and 3, and the percentage of the latter to the former was 60. The deaths from all causes were 10,942, and those from cholera were 3. The outbreak was almost nominal.

Sátára.

92. Until the 11th December Sátára Collectorate was free; but on this date the first case was reported from Dham, a village of 499 inhabitants, in the Wái Táluka, and between the 11th and the 30th (on which date the last case occurred) there were 36 attacks and 14 deaths. The affected area included 1 out of 12 tálukas and 1 out of 1,352 villages. The population of this area is 499, that of the whole district being 1,061,002: so their proportion to the greater number is 0·05 per cent. The attacks and deaths were 36 and 14, and the percentage of the latter to the former was 38·89; and their ratio to the district population was 0·01 per 1,000. The deaths from all causes were 20,844, and those from cholera were 14.

Kaládgi.

93. Cholera made its appearance in the Kaládgi District for the first time on the 20th December at Mulsawalgi, a village of 1,241 inhabitants, in the Sindgi Táluka, and between this date and the 31st there were 6 attacks and 4 deaths. The affected area included 1 out of 8 tálukas and 1 out of 1,201 villages. The population of this area is only 1,241, that of the district being 816,037: so their proportion to the greater number is 0·15 per cent. The attacks and deaths were 6 and 4, and the percentage of the latter to the former was 66·67. The deaths from all causes were 14,195, and those from cholera were 4.

Kolába.

94. The Kolába Collectorate was free from cholera until the 12th of December, and on that date the first case was reported from Diviz, a village of 737 inhabitants, in the Mahád Táluka, and between the 12th and 31st there were 8 attacks and 3 deaths. Six days afterwards it appeared in another village in the same táluka. Between the 22nd and 31st three other villages were invaded, and the attacks and deaths for the month were 48 and 27. The last case occurred on the 31st December at Nadgi, a village of 268 inhabitants, in the Pen Táluka. The affected area included 2 out of 6 tálukas and 5 out of 965 villages, and the population of this area is 2,522, that of the district being 350,405: so their proportion to the greater number is 0·72 per cent. The attacks and deaths for the district during the year were 48 and 27: the percentage of the latter to the former being 56·25, and their ratio to the district population is 0·08 per mille. The deaths from all causes were 6,427, and those from cholera were 27.

Bombay City.

95. In the City of Bombay cholera prevailed throughout the year, as it did in 1879, and as it almost always does. Taking the records as far back as 1857, it will be seen from the subjoined table that the disease was present in 277 out of the 288 months, which make up the period. There was none in December 1867; in February and March of 1868; in February, June, November and December of 1874; in March 1875; and in February and December of 1876. With these exceptions, it was never absent:—

Table showing Cholera mortality by months, and the means, for a period of 23 years.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November.	December.	Total.	Years.
1857 ..	459	165	306	363	249	302	157	86	32	31	18	13	2,181	1857
1858 ..	19	9	8	15	11	9	5	8	11	6	7	7	115	1858
1859 ..	9	10	9	7	69	843	329	170	41	85	131	282	1,985	1859
1860 ..	289	332	396	321	163	107	89	128	51	47	29	9	1,961	1860
1861 ..	15	18	5	4	12	18	13	10	11	34	35	466	641	1861
1862 ..	635	240	339	266	367	218	117	95	161	272	201	269	3,170	1862
1863 ..	89	50	89	161	153	161	412	240	178	181	176	319	2,209	1863
1864 ..	622	401	302	680	837	395	371	351	232	88	137	431	4,847	1864
1865 ..	363	540	522	356	624	206	116	62	31	32	22	13	2,887	1865
1866 ..	13	15	12	16	21	15	27	43	63	49	31	27	332	1866
1867 ..	11	21	12	26	5	9	5	5	7	6	4	..	111	1867
1868 ..	1	..	..	3	3	2	4	6	1	43	63	101	227	1868
1869 ..	157	93	97	91	82	41	54	47	60	26	3	3	754	1869
1870 ..	6	3	5	3	7	12	4	73	76	41	64	92	386	1870
1871 ..	68	41	37	24	15	10	3	11	13	29	8	4	263	1871
1872 ..	7	2	4	7	6	7	46	54	32	11	3	11	190	1872
1873 ..	22	13	17	12	8	7	3	1	2	3	2	2	92	1873
1874 ..	1	..	2	2	7	..	2	1	2	2	..	..	19	1874
1875 ..	1	1	..	31	67	132	279	168	43	53	38	21	834	1875
1876 ..	1	..	2	4	5	9	119	141	64	23	6	..	374	1876
1877 ..	1	61	111	185	337	704	495	337	162	42	21	54	2,510	1877
1878 ..	35	109	224	128	137	99	156	116	43	53	40	25	1,165	1878
1879 ..	27	10	13	4	29	14	33	74	64	41	10	4	323	1879
Means for 23 years.	123	93	109	118	140	145	123	97	60	52	46	93	1,199	Means for 23 years
1880 ..	8	6	8	2	2	2	1	1	1	2	1	1	30	1880.

For the first quarter of 1880 the attacks and deaths were 32 and 17, for the second 8 and 6, for the third they were 5 and 3, and for the fourth 4 and 4—a total for the year of 49 and 30 against 415 and 323 in 1879. The percentage of deaths to attacks is 61·23, and their ratio per 1,000 of population is 0·05. The deaths from all causes were 20,873, and 30 were from cholera.

Thána.

96. In the Thána District the first case of cholera was reported on the 15th of January at Adiwali, a small village of 52 inhabitants, in the Karjat Táluka, and here, between the 15th and 26th, there were 7 cases and 5 deaths. Three days afterwards another village was invaded, and a week after it appeared in 2 others: the attacks and deaths for the month were 39 and 22. In February it disappeared from 2, and appeared in 2 other villages in the same táluka; there were 52 fresh cases and 40 deaths. In March it left the Karjat Táluka, and appeared for the first time in the town of Thána, the attacks and deaths for the month being 7 and 4. In April the disease continued in the same town, and the last case was reported on the 30th April. There were 4 attacks in December, and all ended fatally. The affected area included 1 out of 11 tálukas; 1 out of 3 towns and 5 out of 2,129 villages, and the population of this area is 15,387, that of the district being 847,424: so their proportion to the greater number is 1·81 per cent. The attacks and deaths for the district during the year were 102 and 70; the percentage of the latter to the former was 68·62, and their ratio to the district population is 0·08 per 1,000. The deaths from all causes were 17,131, and those from cholera were 70.

Surat.

97. On the 3rd February the first case of cholera in the Surat Collectorate was reported from Surat, a town of 107,149 inhabitants, but it recovered. In March, at a village in the Bulsár Táluka (Chanvai), 6 cases occurred, and 2 ended fatally between the 4th and the 5th. In April there was no cholera. It re-appeared in Surat town, and one fatal case was reported on the 12th May and another on the 8th July (the last during the year), both of which ended fatally. The affected area included 1 out of 8 tálukas, 1 out of 2 towns, and 1 out of 778 villages. The population of this area is 108,378, that of the district being 607,087: so their proportion to the greater number is 17·85 per cent. The attacks and deaths for the year were 9 and 4, the percentage of the latter to the former was 44·44, and their ratio to the district population was 0·01 per mille. The deaths from all causes were 15,425, and those from cholera were 4.

Panch Maháls.

98. In the Panch Maháls cholera first appeared on the 14th May at Godhra, a town of 10,635 inhabitants, and there was one fatal case. In June and July there was no cholera, but in August, in a village of the Kálol Táluka (Derol), 14 cases were reported, of which 3 proved fatal from the 7th to the 16th, on which date the last case of the year occurred. The affected area included 1 out of 5 tálukas, 1 out of 2 towns, and 1 out of 663 villages; and the population of this area is 11,935, that of the district being 240,743: so their proportion to the greater number is 4·96 per cent. The attacks and deaths were 15 and 4, and the percentage of the latter to the former was 26·67, and their ratio to the district population was 0·02 per mille. The deaths from all causes were 3,796, and those from cholera were 4.

Ahmedabad.

99. In the Ahmedabad District only one fatal case was registered, and it was on the 12th October, at Lákudia, a village of the Gogha Táluka. With this exception, the district was free.

Mortality in Rural Circles or Tálukas.

Seventeen out of our 223 rural circles or tálukas were more or less affected by cholera during the year. The maximum ratio (0·76 per mille of population) was in the Igatpuri Táluka of the Násik Collectorate, and the minimum (0·02) in the Bulsár Táluka of the Surat Collectorate. The other tálukas range between these two.

Mortality in Towns.

100. Out of 55 town circles 5 only were affected this year. Their collective population was 866,930, and the deaths in them were 390, the ratio per 1,000 being 0·45. The details are shown in the statement appended to the Cholera Map, and it will be seen that

Poona City returns the highest number of deaths (349)—a number higher than that for the rest of the Presidency (335).

Mortality in Cantonments.

101. There are 7 civil cantonment circles in the Presidency, of which *one* only (Poona and Kirkee), with 28,450 inhabitants, was affected during the year. There were 29 attacks and 20 deaths, and the ratio of deaths per 1,000 of population was 0·70.

Mortality in Villages.

102. The affected area included 40 out of 37,697 villages, and the population of this area is 39,217. The largest number of villages affected in a given area was 18 out of 1,184 in the Poona District, 5 out of 965 in the Kolába District, 5 out of 2,129 in the Thána District, 3 out of 1,629 in the Násik District, and 3 out of 1,342 in the Ahmednagar District. In the remaining 6 districts the number affected in each was only 1. The subjoined table shows these details:—

Affected Districts.	Population by the Census of 1872.	Total Number of Villages in the District.	Number and Population of Villages affected by Cholera in each Month of the Year 1880.																			
			January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.	
			Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.
Násik	734,286	1,629	..	..	1	2,811	..	..	..	..	..	..	..	..	..	..	1	2,840	1	788	..	..	..	..	..	..	3	6,439
Ahmednagar	773,938	1,342	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	4,888	..	..	..	..	2	1,643	3	6,531
Poona	907,235	1,184	13	14,566	2	583	1	80	1	503	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1,555	18	17 287
Sholápúr	718,634	716	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	544	1	544
Sátára	1,061,002	1,352	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	499	1	499
Kaládgi	816,037	1,201	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1,241	1	1,241
Kolába	350,405	915	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	2,522	5	2,522
Thána	847,424	2,129	4	792	1	296	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	1,088
Surat	607,087	778	..	..	..	..	1	1,229	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1,229
Panch Mahális	240,743	638	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1,294	..	..	..	..	..	..	..	..	1	1,294
Ahmedabad	829,637	888	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	543	..	..	..	..	1	543
Total	16,228,774	16,358	17	15,358	4	3,690	2	1,309	1	503	..	..	..	..	..	..	2	4,134	2	5,676	1	543	..	..	11	8,004	40	39,217

Attacks and Deaths.

103. The next table shows the relation of attacks and deaths month by month in each district, and the last column shows the percentage of deaths to attacks. It will be seen that the highest percentage (81·02) was in the Poona District, and the lowest (26·67) in the Panch Mahális:—

Division.		Districts.	Population by Census of 1872.	January.		February.		March		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Percentage of Deaths to Attacks.
				Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	Attacks.	Deaths.	
Northern Deccan.	1	Khándesh	1,028,642	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	2	Násik	734,386	..	..	66	44	..	..	..	..	..	..	..	..	..	..	11	4	15	7	..	..	..	..	..	..	92	55	59·78
	3	Ahmednagar	773,938	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	2	..	..	..	..	32	9	39	11	28·20
	4	Poona	907,235	465	388	22	20	8	6	12	12	..	..	..	..	..	..	..	..	..	..	1	1	61	34	569	461	81·02
	5	Sholápur	718,034	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	3	5	3	60·00
Southern Deccan.	6	Sátára	1,061,002	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	36	14	36	14	38·89
	7	Belgaum	938,750	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	8	Dhárwár	988,037	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	9	Kaládgi	816,037	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	4	6	4	66·67
Konkan.	10	Kánara	398,406	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	11	Ratnágiri	1,019,138	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	12	Kolába	350,405	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	48	27	48	27	56 25
	13	Bombay City	644,405	17	8	11	6	4	3	3	2	2	2	3	2	3	1	1	1	1	2	2	1	1	49	30	61·23
	14	Thána	847,424	39	22	52	40	7	4	4	4	..	..	..	..	..	..	..	..	..	..	..	..	1	1	102	70	68·62
Gujarát.	15	Surat	607,087	..	..	1	..	6	2	..	..	1	1	..	..	1	1	..	..	..	..	..	..	..	..	9	4	44·44
	16	Broach	350,322	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	17	Kaira	782,733	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	18	Panch Mahális	240,743	..	..	..	..	..	..	..	..	1	1	..	..	..	..	14	8	..	..	..	..	..	..	15	4	26·67
	19	Ahmedabad	829,637	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	1	100·00
Sind.	20	Karáchi	423,495	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	21	Hyderabad	721,947	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	22	Thar and Párkar	180,761	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	23	Shikárpur	776,227	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	24	Upper Sind Frontier	89,985	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Total	16,228,774	521	418	152	110	25	15	19	18	4	4	3	2	4	2	26	8	23	10	3	3	2	2	189	92	971	684	
		Percentage of Deaths to Attacks		80·23		72·37		60·00		94·74		100·00		66·67		50·00		30·77		43·50		100·00		100·00		48·68		70·44		
Percentage of Cholera Deaths to all Deaths				1·22		3·75		0·05		0·07		0·02		0·01		0·01		0·03		0·04		0·01		0·01		0·31		0·21		

104. The following statement appended to Cholera Map shows the name of each district affected, the name and number of each circle, its population, the dates of first and last case, the total of cholera deaths, their ratio for 10,000 of population, the period of maximum intensity, the number of villages in each circle, and the number affected:—

Statement appended to Map, illustrating the Distribution, &c., of Cholera in the Bombay Presidency during the year 1880.

1	2	3	4	5	6	7	8	9		10	11	
Districts.	Number of Circles as shown in the Map.	Name of Circle.	Population of Circle.	Date of first case of Cholera in the Circle during the year.	Date of last case of Cholera in the Circle during the year.	Total Deaths from Cholera in the Circle during the year.	Ratio per 10,000.	Period of Maximum intensity of the Disease.		Number of Villages in each of the Rural Circles.	Number of those	
								From	To		Affected by Cholera.	Not affected by Cholera.
Násik	1	Igatpuri .. R.C.	57,735	1st February 1880.	19th February 1880.	44	7·62	February 1880.	February 1880.	130	1	129
	2	Niphád .. „	86,017	25th August „	12th September „	11	1·28	August „	September „	122	2	120
Ahmednagar	3	Kopergaon .. „	60,839	25th September „	29th „ „	2	0·33	September „	„ „	125	1	124
	4	Sangamner .. „	58,787	5th December „	22nd December „	9	1·53	December „	December „	154	2	152
Poona	5	Khed .. „	139,152	3rd January „	2nd April „	19	1·37	March „	April „	244	3	241
	6	Purandhar .. „	75,782	21st December „	31st December „	17	2·24	December „	December „	92	1	91
	7	Haveli .. „	155,082	1st January „	31st January „	26	1·67	January „	January „	237	11	226
	8	Mával .. „	56,834	19th „ „	28th February „	30	5·28	„ „	February „	168	3	165
	9	Poona City .. T.C	90,486	1st „ „	31st December „	349	38·59	„ „	January „	..	..	..
	10	Poona and Kirkee . C.T.	28,450	15th „ „	10th February „	20	7·03	„ „	„ „	..	..	..
Sholápur	11	Sángola .. R.C.	62,960	1st December „	10th December „	3	0·47	December „	December „	77	1	76
Sátára	12	Wái .. „	75,033	11th „ „	30th „ „	14	1·87	„ „	„ „	126	1	125
Kaládgi	13	Sindgi .. „	99,796	20th „ „	31st „ „	4	0·40	„ „	„ „	150	1	149
Kolába	14	Pen .. „	43,962	22nd „ „	31st „ „	17	3·87	„ „	„ „	150	3	147
	15	Mahád .. „	98,734	12th „ „	31st „ „	10	1·01	„ „	„ „	250	2	248
Bombay City	16	Bombay City .. T.C	644,405	3rd January „	19th „ „	30	0·47	January „	February „	..	..	..
Thána	17	Karjat .. R.C.	77,150	15th „ „	19th February „	62	8·03	„ „	„ „	289	5	284
	18	Thána .. T.C.	14,299	27th March „	30th April „	8	5·59	March „	April „	..	..	..
Surat	19	Bulsár .. R.C.	66,892	4th „ „	5th March „	2	0·21	„ „	March „	95	1	94
	20	Surat .. T.C.	107,149	12th May „	8th July „	2	0·19	May „	July „	..	..	..
Panch Mahála	21	Kálol .. R.C.	40,505	7th August „	16th August „	3	0·74	August „	August „	69	1	67
	23	Godhra .. T.C.	10,641	14th May „	14th May „	1	0·19	May „	May „	..	..	..
Ahmedabad	23	Gogha .. R.C.	24,258	12th October „	12th October „	1	0·41	October „	October „	64	1	63

105. The map itself illustrates the distribution of, and mortality from, cholera in the different mortuary registration circles in the Presidency where cholera was more or less present during the year.

Cholera Map.

SMALL-POX.

106. In 1880 the reported deaths from small-pox were 940, and shown by sexes; there were 500 of males and 440 of females: the mean annual number for the last 14 years is 10,233. In the subjoined table there are given for each district, and for the last 14 years, the annual deaths from small-pox, the total, mean, and ratio per 1,000 of population, and the deaths and their ratios are given for the 15th year (1880):—

Division.	Number.	Districts.	Population according to Census of 1872.	Deaths from Small-pox.																
				1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Total for the last 14 years.	Mean for the last 14 years.	Ratio per 1,000 of Population.	1880.	Ratio per 1,000 of Population.
Northern Deccan.	1	Khándesh	1,028,642	123	514	1,486	885	306	464	2,696	733	133	22	1,466	5,774	240	98	14,940	1,067	1·04	..	0·00
	2	Násik	734,386	..	..	..	68	64	164	2,152	170	48	39	872	3,431	58	5	7,066	505	0·69	1	0·00
	3	Ahmednagar ..	773,933	133	886	1,269	1,026	25	204	2,254	410	22	40	350	1,978	21	5	8,623	616	0·80	..	0·00
	4	Poona	907,235	117	1,000	1,599	357	91	552	2,121	302	129	186	886	1,312	40	24	8,716	623	0·69	..	0·00
	5	Sholápur	718,034	104	448	1,214	470	264	459	2,343	228	29	19	112	1,080	33	1	6,804	486	0·68	..	0·00
Southern Deccan.	6	Sátára	1,061,002	49	379	1,896	2,079	200	248	2,518	594	71	20	207	950	50	3	9,264	662	0·62	2	0·00
	7	Belgaum	938,750	352	887	220	320	326	1,292	3,133	299	537	693	796	1,112	105	6	10,078	720	0·77	5	0·01
	8	Dhárwár	988,037	393	816	1,645	894	491	845	2,658	1,250	485	238	408	2,642	109	..	12,868	919	0·93	2	0·00
	9	Kaládgi	816,037	499	447	687	1,081	608	571	1,765	331	286	253	87	801	18	10	7,444	532	0·65	1	0·00
Konkan.	10	Kánara	398,406	126	45	77	89	329	702	1,170	432	284	137	28	473	68	8	3,968	283	0·71	1	0·00
	11	Ratnágiri	1,019,136	159	263	148	562	551	356	374	712	321	103	1,208	1,239	98	24	6,118	437	0·43	29	0·03
	12	Kolába	350,405	..	..	..	64	350	248	94	141	150	73	398	333	86	41	1,978	140	0·40	67	0·19
	13	Bombay City ..	644,405	1,079	1,055	1,123	1,725	556	921	1,854	709	258	246	3,145	953	353	478	14,453	1,032	1·60	206	0·32
	14	Thána	847,424	71	251	925	421	62	252	780	1,117	258	286	708	1,901	81	5	6,518	466	0·55	5	0·01
Gujarát.	15	Surat	607,087	56	360	1 290	950	65	179	105	454	316	250	429	2,198	91	4	6,742	482	0·79	3	0·00
	16	Broach	350,322	..	..	113	23	15	114	74	166	70	17	21	1,036	154	1	1,804	129	0·37	..	0·00
	17	Kaira	782,733	43	436	356	305	90	313	133	1,336	81	600	109	125	1,061	5	4,993	357	0·45	..	0·00
	18	Panch Mahála ..	240,743	215	115	95	76	1	18	9	106	6	13	53	41	209	2	959	68	0·28	..	0·00
	19	Ahmedabad	329,637	51	98	9	706	81	1,465	201	865	388	177	217	144	1,158	19	5,079	363	0·44	..	0·00
Sind.	20	Karáchi	423,495	61	86	357	134	94	15	148	68	18	5	74	151	11	7	1,229	88	0·21	82	0·19
	21	Hyderabad	721,947	120	419	196	79	1	2	95	5	1	7	176	286	115	54	1,556	111	0·15	66	0·09
	22	Thar and Párkar ..	180,761	20	5	4	23	2	3	16	..	5	36	1	8	17	7	147	11	0·06	7	0·04
	23	Shikárpur	776,227	44	226	470	268	36	14	..	5	5	1	66	..	300	283	1,718	122	0·16	400	0·51
	24	Upper Sind Frontier	89,985	31	66	4	1	1	2	11	2	2	..	..	6	4	66	196	14	0·15	63	0·70
ABSTRACT.																						
Northern Deccan			4,162,235	477	2,848	5,568	2,806	750	1,843	11,566	1,843	361	306	3,686	13,575	387	133	46,149	3,297	0·79	1	0·00
Southern do.			3,808,826	1,293	2,529	4,448	4,374	1,625	2,956	10,069	2,474	1,379	1,204	1,498	5,505	282	19	39,655	2,833	0·74	10	0·00
Konkan			3,259,776	1,435	1,614	2,273	2,861	1,848	2,479	4,272	3,111	1,271	845	5,437	4,299	686	556	33,037	2,362	0·73	308	0·09
Gujarát			2,810,522	365	1,009	1,863	2,060	252	2,089	522	2,427	861	1,057	829	3,539	2,673	31	19,577	1,396	0·49	3	0·00
Sind			2,192,415	276	802	1,031	505	134	86	270	80	31	49	817	451	447	417	4,846	345	0·16	618	0·21
Presidency ..			16,228,774	3,846	8,802	15,183	12,606	4,609	9,403	26,699	9,935	3,903	3,461	11,817	27,369	4,475	1,156	143,264	10,233	0·63	940	0·06

SKETCH MAP

TO ILLUSTRATE THE

DISTRIBUTION OF, AND COMPARATIVE MORTALITY

from

CHOLERA

in the

DIFFERENT CIRCLES OF MORTUARY REGISTRATION

OF THE PRESIDENCY OF BOMBAY

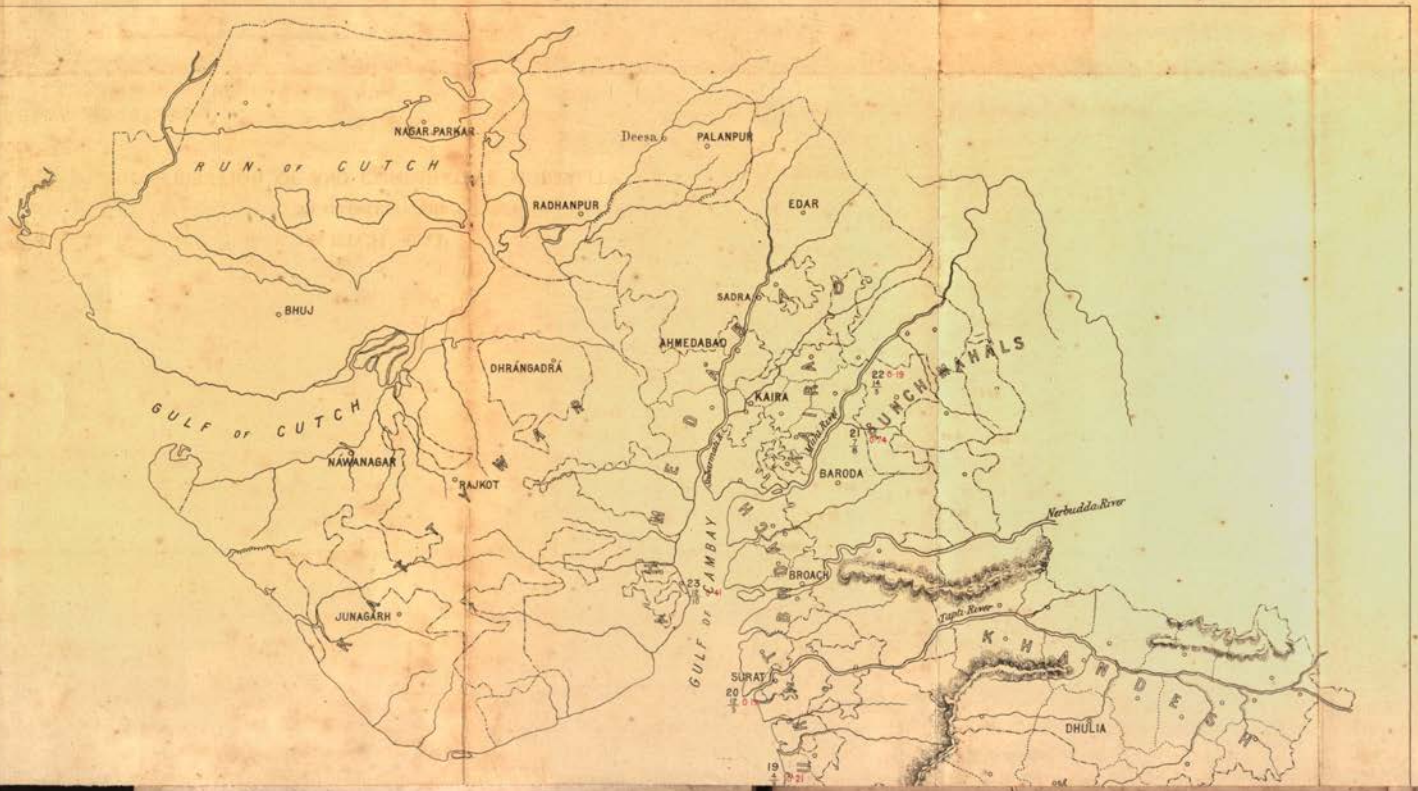
During the Year

1880.

Scale 30 Miles to 1 Inch

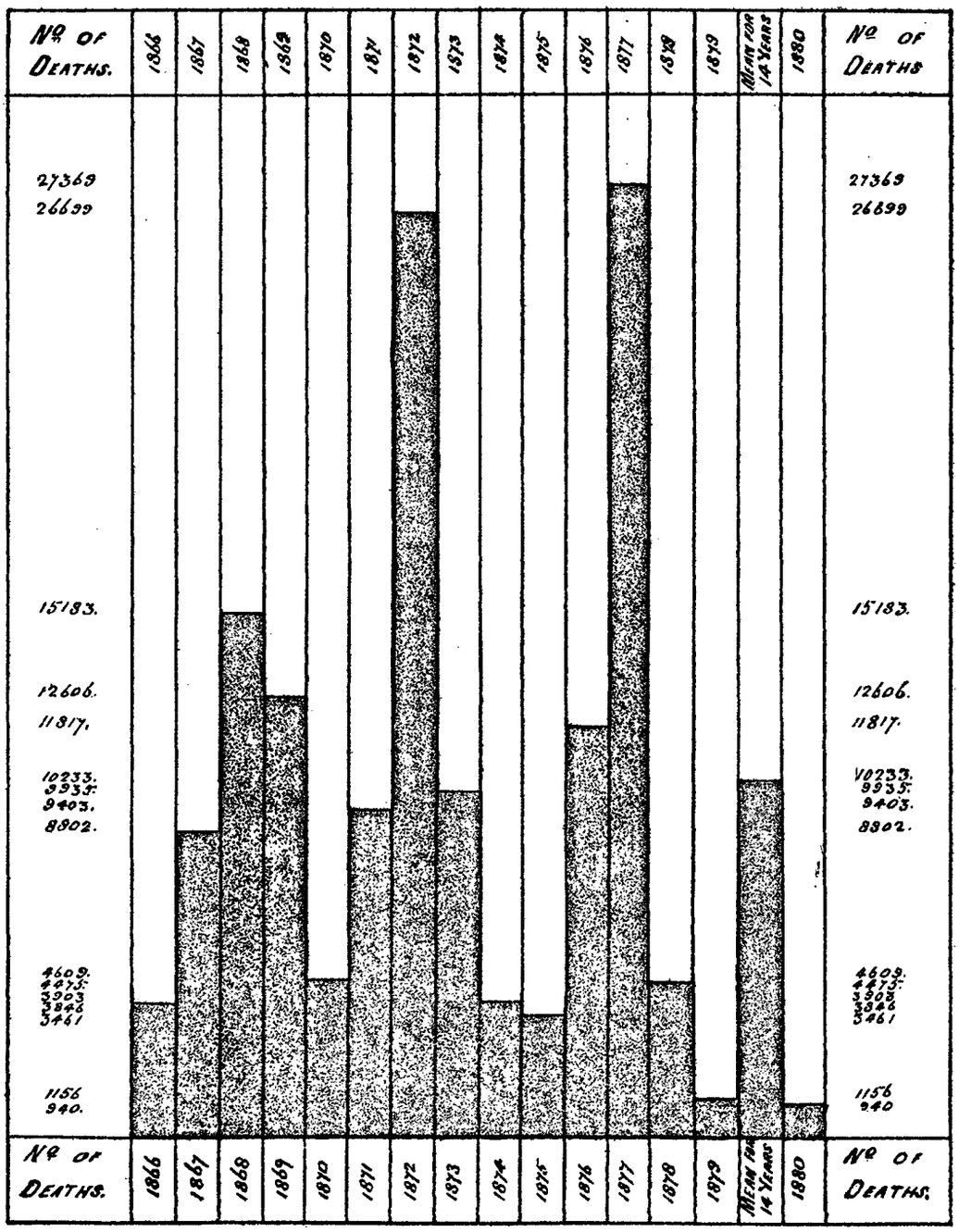
N.B. Figures in black ink shew the Number of the Registration Circle. These Numbers are given in Column 3 of the "Statement appended to Map."
Figures in red ink shew the ratio of deaths from Cholera per 10,000 of population.
The fractional figures indicate the date of first cases in each circle. Thus ⅞ means 2nd July.

Photozincographed, Govt. Office, Poona, 1881.


NAGAR PARKAR
RUN. or CUTCH
Deesa
PALANPUR
RADHANPUR
EDAR
SADRA
BHUJ
AHMEDABAD
DHRÁNGADRÁ
KAIRA
PANCH MAHALS
GULF of CUTCH
NAWANAGAR
RAJKOT
BARODA
Narbudda River
BROACH
Tapti River
JUNAGARH
GULF of CAMBAY
SURAT
KHANDESH
DHULIA

Diagram

shewing for the Bombay Presidency
the mortality from Smallpox from 1866 to 1879 inclusive,
the mean for 14 years, and the mortality for 1880



Govt Photozincographic Office, Poona, 1881

Out of the 24 districts, 8 were quite free, 9 have their deaths below 10, and in the remaining 7, Shikárpur stands first with a maximum number of 400 deaths. Next stands Bombay City with 206 deaths, Karáchi with 82, Colába with 67, Hyderabad with 66, Upper Sind Frontier with 63, and Ratnágiri with a minimum number of 29 deaths. Speaking by divisions, Sind has been signalized by a severe epidemic of small-pox during the year under report, the number of deaths being 618 against 417 deaths for the previous year, and against 345 the mean. In Konkan Division the deaths registered from small-pox are 308, but they show a large decrease against the previous year and the mean. In Southern Deccan, in Gujarát, and in Northern Deccan, they are only 10, 3 and 1 respectively, showing a striking contrast against the mean and the previous year. (See diagram on opposite page.)

107. The next table shows the deaths for each month, those under 1 year under 12, and above 12, and it will be seen from it that the minimum mortality is under 1, and the maximum between 1 and 12, but the deaths from above 12 years in six months, *viz.*, April, May, July, August, October and December, exceed those under 1 and between 1 and 12 :—

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Total deaths from Small-pox in each month ..	82	150	194	146	117	91	43	34	20	12	15	36	940
Deaths under 1 year	14	28	37	25	26	15	8	3	8	2	1	6	173
Do. do. 12 years	35	73	88	54	45	44	13	15	10	2	7	11	397
Do. above 12 do.	33	49	69	67	46	32	22	16	2	8	7	19	370

108. In the following table deaths are shown by seasons, and it will be seen that during the year, in the cold season, they have exceeded those of the previous year by 29 deaths. In all the other seasons they show great diminution in the number of deaths than any of the previous year and the mean :—

Years.	Cold Season (121 Days).				Hot and Dry (61 Days.)		Rainy Season (122 Days).				Hot and Damp (61 Days).		Total Deaths from Small-pox.
	December (31).	January (31).	February (28).	March (31).	April (30).	May (31)	June (30).	July (31).	August (31.)	September (30).	October (31).	November (30).	
1866	279	218	370	555	587	560	402	259	224	117	143	132	3,846
1867	982	523	646	1,162	1,135	1,137	905	652	543	351	268	498	8,802
1868	851	1,250	1,598	2,709	2,390	1,974	1,581	995	674	376	327	458	15,183
1869	189	931	1,368	2,449	2,657	2,022	1,803	759	352	234	156	186	12,606
1870	224	276	371	652	633	637	501	365	299	247	225	179	4,609
1871	884	436	509	859	1,377	1,522	1,211	719	516	445	411	514	9,403
1872	717	2,060	3,810	5,247	4,482	3,479	2,540	1,661	1,082	558	439	624	26,699
1873	186	1,184	1,523	1,961	1,662	1,240	885	536	301	170	127	160	9,935
1874	218	290	367	639	606	500	466	287	161	122	119	134	3,903
1875	170	355	408	478	577	432	338	224	185	110	91	93	3,461
1876	2,437	344	924	1,822	1,429	1,124	859	677	458	329	394	1,020	11,817
1877	249	4,465	4,437	5,949	5,097	3,325	1,630	911	514	347	217	228	27,369
1878	71	477	694	1,162	905	571	283	184	45	44	27	12	4,475
1879	70	139	72	152	193	178	124	90	41	44	18	35	1,156
Mean	537	925	1,221	1,843	1,695	1,336	930	594	385	250	212	305	10,233
1880	36	82	150	194	146	117	91	43	34	20	12	15	940

ABSTRACT.

Seasons.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Mean.	1880.
Cold	1,422	3,313	6,408	4,937	1,523	2,688	11,834	4,854	1,508	1,411	5,527	15,100	2,404	438	4,526	462
Hot and dry	1,147	2,272	4,364	4,679	1,270	2,899	7,961	2,902	1,106	1,009	2,553	8,422	1,476	371	3,031	263
Rainy	1,002	2,451	3,626	2,648	1,412	2,891	5,841	1,892	1,036	857	2,323	3,402	556	299	2,159	188
Hot and damp	275	766	785	342	404	925	1,063	287	253	184	1,414	445	39	53	517	27
Total ..	3,846	8,802	15,183	12,606	4,609	9,403	26,699	9,935	3,903	3,461	11,817	27,369	4,475	1,156	10,233	940

109. The details of preventive means are given in Section III., under Vaccination.

FEVER.

110. The deaths from fever in 1880 were 246,779, and by sexes they were 132,557 of males and 114,222 of females, against the total of 286,526 in 1879. This shows a decrease of 39,747 deaths during the year under report. In the following table these deaths are shown by districts and divisions since 1866; the 14 years' totals, means, and ratios per 1,000 of population are also given, and the deaths and their ratios for 1880. (See diagram on opposite page).

Division.	Number.	Districts.	Population according to Census of 1872.	Deaths from Fever. 1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Total for the last 14 years.	Mean for the last 14 years.	Ratio per 1,000 of Population.	1880.	Ratio per 1,000 of Population.
Northern Deccan.	1	Khándesh ..	1,028,642	4,282	6,676	7,459	8,427	8,476	10,416	14,438	10,536	11,291	13,957	15,002	14,386	23,489	14,895	168,730	12,052	11·72	17,159	16·68
	2	Násik	734,386	..	..	..	3,584	5,666	7,788	12,429	9,070	8,501	11,167	12,008	14,899	21,360	11,709	118,181	8,442	11·48	11,481	15·63
	3	Ahmednagar ..	773,938	7,803	5,651	7,658	6,509	6,848	7,267	10,488	7,262	9,069	12,963	13,521	19,424	20,248	12,425	147,436	10,531	13·61	10,542	13·62
	4	Poona	907,235	6,547	5,545	5,626	6,303	7,542	10,791	14,137	11,418	9,731	12,018	13,342	19,753	20,612	9,599	152,964	10,926	1·042	10,522	11·60
	5	Sholápur ..	718,034	2,810	2,271	3,100	3,761	4,166	4,538	6,620	5,484	6,403	8,721	10,039	16,941	17,023	12,890	104,767	7,483	10·42	7,838	10·91
Southern Deccan.	6	Sátára ..	1,061,002	10,355	8,250	9,111	10,299	10,635	11,944	17,919	15,746	14,772	14,031	16,705	31,555	27,351	17,286	215,959	15,426	14·54	17,088	16·10
	7	Belgaum ..	988,750	5,518	5,850	5,420	5,060	4,120	5,808	6,761	6,610	8,428	14,772	12,681	25,267	25,381	18,922	150,604	10,757	11·46	15,666	16·69
	8	Dhárwár ..	988,037	6,183	6,710	7,662	7,005	6,83	9,240	10,395	9,126	11,165	17,818	13,515	39,915	29,082	17,802	192,652	13,761	13·93	13,917	14·09
	9	Kaládgi ..	816,037	4,406	3,294	4,306	5,773	5,82	5,189	8,396	5,777	7,756	9,463	9,757	41,248	16,872	14,372	142,434	10,174	12·47	11,054	13·55
Konkan.	10	Kánara ..	398,406	4,956	5,679	4,899	5,134	5,25	5,868	5,268	4,825	5,934	6,265	6,452	10,662	11,542	8,867	91,601	6,543	16·42	7,181	18·02
	11	Ratnágiri ..	1,019,136	7,189	5,262	4,577	4,76	4,82	5,847	6,518	7,570	6,519	6,627	7,513	8,449	10,667	19,955	105,278	7,591	7·45	11,603	11·38
	12	Kolába ..	350,405	..	..	..	96	2,33	3,523	3,56	3,145	2,784	2,759	2,812	3,281	4,213	4,727	34,135	2,438	6·96	5,064	14·45
	13	Bombay City .	644,405	9,870	5,674	5,481	5,10	4,74	6,269	7,512	6,100	5,345	5,150	5,856	12,788	9,905	8,441	98,244	7,017	10·89	7,391	11·47
	14	Thána	847,424	4,082	3,861	5,388	6,191	7,44	12,763	15,471	13,907	11,788	11,678	12,609	15,746	16,017	14,199	151,146	10,796	12·74	14,997	17·70
Gujarát.	15	Surat	607,087	4,242	3,552	4,241	5,12	5,92	6,886	10,955	12,975	10,790	11,678	10,912	8,865	10,442	13,677	119,753	8,554	14·09	12,383	20·39
	16	Broach ..	350,322	..	..	1,402	3,20	2,70	4,117	6,142	6,906	6,047	7,409	5,856	5,253	11,956	11,755	72,755	5,197	14·83	9,470	27·03
	17	Kaira	782,733	4,494	5,924	5,949	10,34	8,17	13,530	13,900	16,180	13,149	14,129	13,364	11,912	23,915	26,227	180,191	12,871	16·44	20,475	26·16
	18	Panch Mahás.	240,743	1,394	1,807	1,427	1,78	2,01	2,613	3,091	3,212	2,751	3,093	4,616	3,037	9,180	3,055	43,048	3,075	12·77	3,487	14·48
	19	Ahmedabad ..	829,637	2,765	2,840	2,823	11,61	9,74	15,187	15,386	15,645	13,938	14,186	13,583	11,755	23,518	25,807	178,743	12,767	15·39	20,546	24·77
Sind.	20	Karáchi ..	423,495	2,360	2,467	1,918	3,68	2,56	2,839	6,571	4,997	3,553	3,559	4,911	5,350	5,823	4,887	55,491	3,964	9·36	4,745	11·20
	21	Hyderabad ..	721,947	3,115	3,611	3,655	5,99	5,14	6,050	9,509	5,223	4,644	4,913	6,055	7,128	8,282	7,214	80,540	5,753	7·97	6,270	8·68
	22	Thar and Párkar	180,761	528	307	635	1,970	718	469	636	618	970	896	1,579	2,225	3,379	1,739	16,665	1,190	6·58	2,049	11·34
	23	Shikárpur ..	776,227	1,128	4,047	4,204	5,805	8,797	8,489	..	6,380	7,020	6,297	7,379	6,394	6,517	5,509	77,964	5,569	7·18	5,431	7·00
	24	Upper Sind Frontier ..	89,985	429	563	524	640	834	746	612	489	769	60	816	632	602	568	8,831	931	7·01	430	4·78

ABSTRACT.

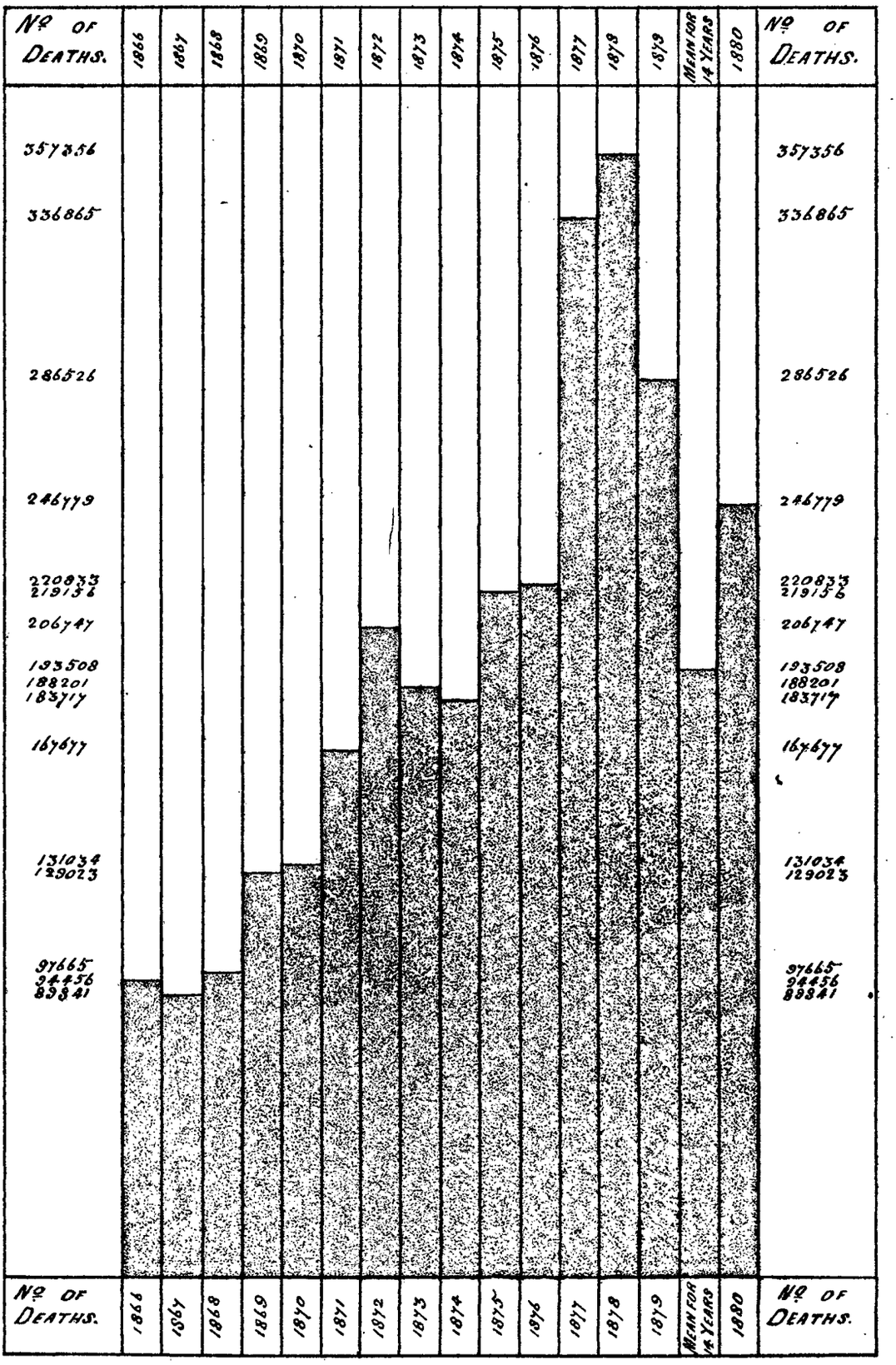
Northern Deccan	4,162,235	21,442	20,143	23,843	28,584	32,398	40,800	58,112	43,770	45,595	63,826	63,912	85,403	102,732	61,518	6,92,078	49,434	11·88	57,587	13·82
Southern do.	3,803,826	26,462	24,104	26,699	28,137	27,420	32,181	43,471	37,259	42,121	56,084	52,658	137,985	98,686	68,382	7,01,649	50,118	13·18	57,720	15·17
Konkan	3,259,776	26,097	20,476	20,345	22,157	24,600	34,270	38,362	35,547	32,370	32,479	35,242	50,926	52,344	56,189	4,81,404	34,385	10·54	46,286	14·12
Gujarát	2,810,522	12,895	14,123	15,842	32,045	28,560	41,833	49,474	53,918	46,675	50,495	48,281	40,822	79,011	80,521	5,94,495	42,464	15·11	66,361	23·61
Sind	2,192,415	7,560	10,995	10,936	18,100	18,058	18,593	17,328	17,707	16,956	16,272	20,740	21,729	24,603	19,916	2,39,491	17,107	7·80	18,925	8·63
Total ..	16,228,774	94,456	89,841	97,665	129,023	131,034	167,677	206,747	188,201	183,717	219,156	220,833	336,865	357,376	286,526	2,709,117	193,508	11·92	246,779	15·31

From the above table it will be seen that the increase in the number of deaths in the year under report in 7 districts, *viz.*, Khándesh, Poona, Kolába, Thána, Panch Mahás, Ahmedabad and Thar and Párkar, was greater than those of the year previous, whilst none of the divisions show increase. The highest ratio of mortality during the year was 27·03 in Broach, and the lowest was 4·78 in Upper Sind Frontier. By divisions the maximum mortality, 23·61, was in Gujarát, and the minimum, 8·63, was in Sind.

111. The next table shows the mortality by the conventional seasons for each year from 1866 to 1880 inclusive, and the totals for the year under report are so placed as to contrast with the means of the preceding 14 years. It will also be seen that the figures for 1880 for each month and season exceed those of the mean for 14 years, although they are far below those of 1879 :—

Diagram

shewing for the Bombay Presidency
the mortality from Fever from 1866 to 1879 inclusive,
the mean for 14 years, and the mortality for 1880.



Govt Photozincographic Office, Poona, 1881.

Years.	Cold Season (121 Days).				Hot and Dry (61 Days).		Rainy Season (122 Days.)				Hot and Damp (61 Days).		Total Deaths from Fever.
	December (31).	January (31).	February (28).	March (31).	April (30).	May (31).	June (30).	July (31).	August (31).	September (30).	October (31).	November (30).	
1866..	8,173	9,419	8,251	8,291	7 359	7,310	6,023	6,318	8,193	7,734	8,263	9 122	94,456
1867..	8,894	7,850	6,779	7,042	6,790	6,983	6,069	6,541	7,366	7,579	8,149	9,799	89,841
1868..	10,742	8,237	7,587	8,304	6,775	7,027	6,735	7,249	7,862	7,438	8,990	10,219	97,665
1869..	14,283	8,860	8,074	10,056	9,986	9,512	8,450	10,548	10,868	11,138	12,164	15,184	1,29,123
1870..	16,416	11,019	9,194	9,119	8,577	8,787	7,811	8,491	10,823	12,064	13,232	15,502	1,31,035
1871..	16,479	13,478	12,438	14,264	13,724	12,324	12,529	13,023	14,199	13,905	15,017	16,297	1,67,677
1872..	18,102	16,504	15,081	16,345	15,880	14,489	14,802	16,498	19,452	18,326	18,458	22,810	2,06.747
1873..	18,385	19,828	14,002	15,257	13,730	13,871	12,438	13,577	14,995	15,550	17,672	18,896	1,88,201
1874..	18,370	17,163	13,708	15,349	13,825	13,120	13,019	13,678	14,814	13,870	17,250	19,251	1,83,717
1875..	20,558	17,430	14,810	16,003	17,048	17,212	17,307	19,476	20,374	19,308	18,395	21,235	2,19,156
1876..	21,620	19,338	17,466	17,448	16,592	16,491	15,043	17,725	19,898	19,372	18,590	21,250	2,20,833
1877..	34,749	19,607	17,686	22,258	23,580	24,986	24,046	29,324	33,720	34,221	33,753	38,937	3,36,865
1878..	32,344	31,004	23,375	23,624	24,372	25,829	24,359	28,674	34,443	35,718	36,450	37,184	3,57,376
1879..	27,899	27,179	21,823	20,692	19,723	20,049	18,215	20,769	24,083	25,333	28,618	32,143	2,86,526
Mean..	19,072	16,208	13,591	14,575	14,140	14,164	13,346	15,135	17,221	17,290	18,214	20,5.9	1,93.515
1880..	22,565	24,689	22,625	23,921	19,909	18,579	16,572	18,922	19,856	18,396	18,406	22,33-	2,46,779

ABSTRACT.

Seasons.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Mean.	1880.
Cold	34134	30,565	34,870	41,273	45,748	56,659	66,032	67,472	64,590	68,801	75 872	94,300	110,347	97,593	63,446	93,800
Hot and Dry ..	14 669	13.773	13,802	19,498	17,364	26,048	30,369	27,601	27,245	34,260	33,033	48,566	50,201	39,772	28,304	38,488
Rainy	28,268	27,555	29.784	41,004	39,139	54,656	69,078	56,560	55,381	76,465	72,038	121.309	123,194	88,400	62,992	73,746
Hot and Damp ..	17,385	17,948	19,209	27,348	28,734	31,314	41,468	36,568	36,501	39,630	39,840	72,69-	73,634	60,761	38,773	40,745
Total ..	94,456	89,841	97,665	129,123	131,035	167,677	206,747	188,201	183,717	219,156	220,833	336,865	357,376	286,526	193,515	246,779

BOWEL COMPLAINTS.

112. The deaths from bowel-complaints during the year under report are 24,452, and by sexes they are 13,803 of males and 10,649 of females; the total is less by 1,897 than that of 1879. In the following table are shown for each district the deaths for each year since 1866, totals, means and ratios per 1,000 of population for 14 years, and the deaths and their ratios for 1880:—

Division.	Number.	Districts	Deaths from Bowel-complaints.																	
			Population according to Census of 1872.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Total of 14 years.	Means.	Ratio per 1,000 of Population.	1880.	Ratio per 1,000 of Population.
Northern Deccan.	1	Khándesh ..	1,028,642	1,247	1,894	1,981	2.706	2.080	2,398	3,004	2,098	2,420	3,927	3,070	3,037	4,835	2,451	37,148	2,653	2·58	3,075	2·99
	2	Násik	734,386	..	..	..	938	1.181	1,748	1,950	1.106	1,337	1,716	1,630	1,784	2,010	1,122	16,552	1,182	1·61	1,201	1·64
	3	Ahmednagar ..	773,938	1,681	1,366	1,897	1,834	1.740	1,775	2,072	1.536	2,029	2,641	2,493	2,884	2,157	1,481	27,5-6	1,970	2·55	1,236	1·60
	4	Poona	907,235	706	855	919	1.084	1,270	1,859	2,103	1,646	1,363	1,866	1,764	2,270	1.769	937	20,411	1,458	1·61	976	1·07
	5	Sholápur ..	718,034	1,388	857	909	1,290	1,096	710	1,702	941	1,302	1,365	1,793	5,016	2,230	1,490	22,089	1,578	2·20	853	1·19
Southern Deccan.	6	Sátára	1,061,002	2,914	1,961	2,319	3,691	3,038	1,117	4,004	2,484	2,064	2,229	2,990	7,796	4,121	1,494	42,212	3,015	2·84	1,197	1·13
	7	Belgaum ..	938,750	417	3 8	365	442	490	1.656	1,921	1,439	1,953	2,858	3,054	5,632	2,540	1,901	24,976	1,784	1·90	2,545	2·71
	8	Dhárwár. ..	988,037	2,508	2.084	2,791	3.611	3,817	5.233	5,888	4,509	4,529	4,686	4,718	12,230	4,072	2,461	63,137	4,513	4·56	3,038	3·07
	9	Kaládgi	816,037	2,784	1,088	1,395	2,468	2,031	1,189	1,500	720	742	983	1,402	6,102	516	464	23,384	1,670	2·05	1,025	1·25
Konkan.	10	Kánara	398,406	560	547	647	650	537	680	809	352	1,057	1,254	1,196	2,345	1,501	1,062	13,747	982	2·46	854	2·15
	11	Ratnágiri ..	1,019,136	683	629	597	848	863	883	826	1,038	1,465	1 529	1,501	2,009	1,851	2,092	16.814	1 201	1·18	1,335	1·31
	12	Kolába	350,405	..	..	..	67	156	258	270	148	143	193	233	312	215	135	2,130	152	0·43	141	0·40
	13	Bombay City ..	644,405	1,184	1,630	1,645	1,697	1,285	1,678	1,673	1,561	1,607	2,228	1,963	3,545	3,028	2,467	27,191	1,942	3·01	1,683	2·61
	14	Thána	847,424	245	301	349	347	356	683	551	508	378	462	340	502	346	216	5,584	399	0·47	188	0·22
Gujarát.	15	Surat	607,087	409	153	174	350	1,032	2,160	1,655	1,263	1,245	1,573	1,253	1,286	1,493	1,500	15,596	1,114	1·84	1,366	2·25
	16	Broach	350,322	..	..	102	237	194	323	324	331	261	495	411	437	927	881	4,923	352	1·00	320	0·91
	17	Kaira	782,733	943	1,260	1,139	1,606	1,120	2,046	1,615	2,108	1,647	2,064	1,981	1.810	2,902	1,676	23,947	1,711	2·19	1,810	2·31
	18	Panch Mahals ..	240,743	170	198	124	168	100	152	149	222	115	125	115	121	1,984	170	3,913	280	1·16	123	0·51
	19	Ahmedabad ..	829,637	1,427	1,674	1,534	5,410	3,038	3.078	1,330	1,392	863	1,058	1,414	771	2,227	1,799	27,015	1,929	2·32	980	1·18
Sind.	20	Karáchi	428,495	213	234	106	178	97	145	135	70	101	47	74	46	97	108	1,651	118	0·28	167	0·40
	21	Hyderabad ..	721,947	462	196	126	54	30	138	97	43	46	79	54	75	107	97	1,604	115	0·16	99	0·14
	22	Thar and Párkar	180,761	49	23	34	35	40	16	31	41	55	56	58	51	38	19	546	39	0·22	19	0·11
	23	Shikárpur ..	776,227	165	111	126	165	143	435	..	188	219	202	160	203	188	279	2,584	185	0·24	176	0·23
	24	Upper Sind Frontier.	89,985	134	4	10	22	1	12	25	15	49	14	16	13	11	47	373	27	0·30	45	0·50

ABSTRACT.

Northern Deccan	4,162,235	5,022	4,97:	5,706	7,902	7,367	8,490	10,831	7,327	8,451	11.515	10,750	14.971	13,001	7,481	123.786	8,841	2·12	7,341	1·76
Southern do.	3,803,826	8,623	5,441	6,870	10,202	9,378	9,245	13,313	9,152	9,288	10.756	12,184	31,760	11.249	6,320	153,759	10,982	2·89	7,805	2·05
Konkan	3,259,776	2,672	3,107	3,238	3,609	3,247	4,189	4,129	4,107	4,650	5,666	5,233	8,713	6,941	5.972	65,486	4,676	1·43	4,201	1·29
Gujarát	2,810,522	2,949	3,285	3,073	7,771	5,534	7,759	5,103	5,316	4,131	5,315	5,174	4,425	9,533	6,026	75,394	5,386	1·92	4,599	1·63
Sind	2,192,415	1.023	568	402	454	311	746	288	357	470	398	362	388	441	550	6,758	454	0·22	506	0·23
Total ..	16,228,774	20,289	17,373	19,289	29,938	25,835	30,422	33,664	26,259	26,990	33,650	33,683	60.257	41,165	26,349	425,163	30,369	1·87	24,452	1·51

From the above table it will be seen that the number of deaths in 10 districts, *viz.*, Khándesh, Nasik, Poona, Belgaum, Dhárwár, Kaládgi, Kolába, Kaira, Karáchi and Hyderabad, exceed those of 1879, and in 12 districts the ratios for the mean exceed those of 1880. The highest ratio, 3·07 per 1,000 of deaths during the year, is in Dhárwár, and the lowest, 0·11, is in Thar and Párkar. In no division, except Sind, the ratio for the year under report exceeds that of the mean. (See diagram on opposite page.)

113. The next table shows the deaths by seasons from 1866 to 1880 inclusive, and the mean for the last 14 years is so placed as to contrast with the total of 1880. It will be found that in only 2 months (January and February) the number of deaths exceed those for the means by 2 and 68 respectively. By seasons, 1880 compares very favourably with the mean and 1879. The maximum and minimum deaths were respectively in the rainy and hot and dry seasons :—

Years.	Cold Season (121 Days).				Hot and Dry (61 Days).		Rainy Season (122 Days).				Hot and Damp (61 Days).		Total Deaths from Bowel-complaints.
	December (31).	January (31).	February (28).	March (31).	April (30).	May (31).	June (30).	July (31).	August (31).	September (30).	October (31).	November (30).	
1866	1,288	1,363	1,296	1,417	1,324	1,464	1,447	1,722	2,635	2,584	2,071	1,678	20,289
1867	1,282	1,372	1,211	1,339	1,305	1,325	1,439	1,571	1,838	1,768	1,525	1,398	17,373
1868	1,673	1,316	1,299	1,451	1,270	1,316	1,452	1,934	2,131	1,907	1,898	1,714	19,361
1869	1,807	1,754	1,607	1,931	2,302	2,396	2,553	3,596	3,858	3,299	2,681	2,151	29,935
1870	2,265	1,591	1,437	1,552	1,606	1,554	1,764	2,225	3,186	3,351	2,842	2,463	25,836
1871	2,343	2,454	2,148	2,582	2,182	2,413	2,632	2,909	2,875	2,646	2,541	2,365	30,090
1872	2,027	2,351	2,078	2,123	2,075	2,305	2,658	3,697	4,881	3,898	3,045	2,523	33,661
1873	2,143	2, 41	1,545	1,885	1,786	2,140	1,920	2,428	2,814	2,543	2,549	2,265	26,259
1874	2,308	2,062	1,638	1,892	1,860	2,011	2,296	2,701	3,054	2,476	2 457	2,235	26,990
1875	2,610	2,378	1,897	2,147	2,390	2,456	2,862	3,751	4,071	3,584	2,860	2,644	33,650
1876	2,698	2,370	2,132	2,331	2,513	2,662	2,660	3,337	4,123	3,521	2,655	2,681	33,683
1877	2,914	2,777	2,717	3,270	3,527	4,201	5,012	6,799	8,666	9,176	6,825	4,373	60,257
1878	2,755	2,660	2,032	2,238	2,385	2,718	3,558	4,001	6,375	5,495	3,878	3,070	41,165
1879	2,155	2,473	1,892	1,836	1,760	1,885	1,745	2,397	2,880	2,674	2,496	2,156	26,349
Mean	2,162	2,083	1,781	2,000	2,020	2,203	2,429	3,075	3,813	3,495	2,881	2,408	30,350
1880	2,106	2,085	1,849	1,984	1,780	1,788	1,768	2,207	2,507	2,351	1,942	2,085	24,452

ABSTRACT.

Seasons.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Mean.	1880.
Cold	5,364	5,204	5,739	7,099	6,845	9,527	8,579	7,814	7,900	9,032	9,531	11,678	9,685	8,356	8,026	8,024
Hot and Dry.	2,788	2,630	2,586	4,698	3,160	4,595	4,380	3,926	3,871	4,846	5,175	7,728	5,103	3,645	4,223	3,568
Rainy ..	8,388	6,616	7,424	13,306	10,526	11,062	15,134	9,705	10,527	14,268	13,641	29,653	19,429	9,696	12,812	8,833
Hot and Damp ..	3,749	2,923	3,612	4,832	5,305	4,906	5,568	4,814	4,692	5,504	5,336	11,198	6,948	4,652	5,289	4,027
Total ..	20,289	17,373	19,361	29,935	25,836	30,090	33,661	26,259	26,990	33,650	33,683	60,257	41,165	26,349	30,350	24,452

INJURIES.

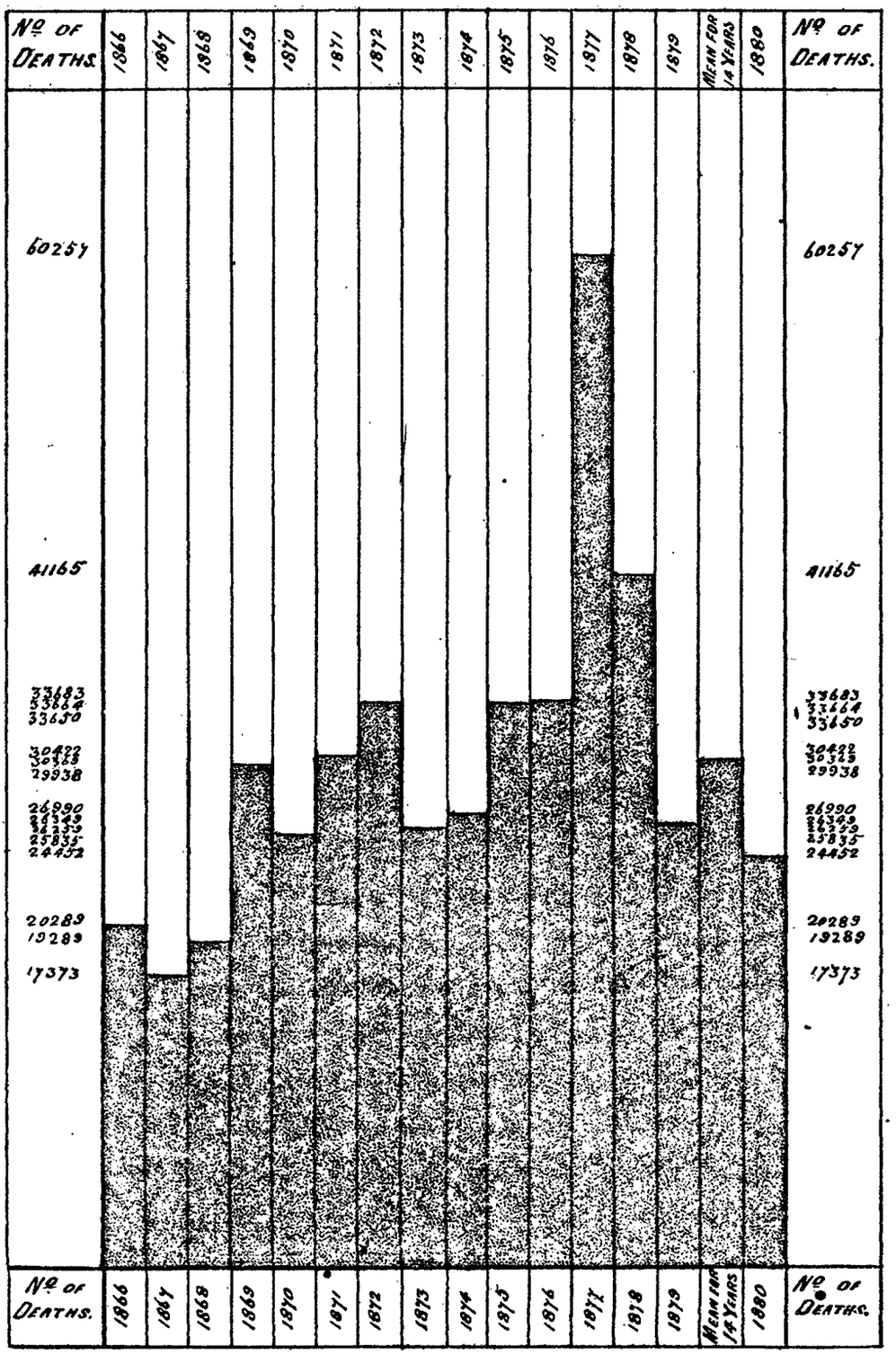
114. There were 6,082 deaths from injuries, and by sexes there were 3,502 of males and 2,580 of females : their ratio per 1,000 of population was 0·37. For 1879 the total was 7,107, the ratio being 0·44. This shows a decrease in the number of deaths by 1,025, and in the ratio by 0·07 against 1879. Of the 6,082 deaths there were 2,869 by drowning, 1,200 from causes other than those specified, 1,179 by snake-bites, 359 from wounds, 238 by hanging, 143 from attacks by wild beasts, and 94 by poisoning. They are shown by sexes in the subjoined table :—

Causes.	Deaths in 1880.			Deaths in 1879.		
	Males.	Females.	Total.	Males.	Females.	Total.
Drowning	1,288	1,581	2,869	1,680	2,059	3,739
Poisoning	64	30	94	64	29	93
Hanging	161	77	238	191	73	264
Wounding	273	86	359	234	125	359
Wild beasts	103	40	143	78	56	134
Snake-bites	759	420	1,179	676	368	1,044
Other causes	854	346	1,200	1,053	421	1,474
Total ...	3,502	2,580	6,082	3,976	3,131	7,107

It will be seen from the above table that, on the whole, there is a decrease, but there is an increase of 135 deaths under snake-bites, and an increase of one under poisoning. Under wounds the number is exactly the same as that of last year.

Diagram

shewing for the Bombay Presidency the mortality from Bowel complaints from 1866 to 1879 inclusive, the mean for 14 years & the mortality for 1880.



Photozincographed, Govt Office, Poona, 1881.

115. The next table gives the deaths from injuries since 1866, their total, mean and ratio per 1,000 of population for 14 years for each district and division, so also the figures for 1880 are given. From it it will be seen that, though the number of deaths exceeds that of the mean, there is a marked decrease during the year than any other year from 1877. It will also be seen that in only 3 districts—Kánara, Ahmedabad and Thar and Párkar—deaths during the year have exceeded those of 1879 by 6, 1, and 19 respectively. In two districts of Kolába and Upper Sind Frontier there was neither increase nor decrease, the deaths during the year were exactly the same as for 1879. In all the rest of the districts and in each division there is a decided decrease in the number of deaths during the year when compared with those for 1879.

Division.	Number.	Districts.	Population according to Census of 1872.	Deaths from Injuries.																1880.	Ratio per 1,000 of Population.
				1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Total.	Mean for the last 14 years.	Ratio per 1,000 of Population.		
Northern Deccan.	1	Khándesh ..	1,028,642	183	174	210	183	187	243	471	382	299	326	304	316	332	297	3,907	279	0·27	257	0·25
	2	Násik	734,386	..	..	..	139	223	166	199	183	147	189	183	165	176	180	1,950	139	0·19	169	0·23
	3	Ahmednagar ..	773,938	582	341	505	582	341	171	176	188	176	166	146	196	247	201	4,018	287	0·37	189	0·25
	4	Poona	907,235	205	191	217	177	199	304	249	284	284	268	327	330	340	308	3,683	263	0 29	297	0·33
	5	Sholápur ..	718,034	421	232	102	162	138	195	214	206	203	164	148	288	326	294	3,093	221	0·31	212	0·30
Southern Deccan.	6	Sátára	1,061,002	360	290	225	259	261	323	322	413	399	393	373	488	476	434	5,021	359	0·34	370	0·36
	7	Belgaum ..	938,750	198	168	172	160	187	276	316	313	322	322	281	529	463	424	4,131	295	0·31	339	0·36
	8	Dhárwár ..	988,037	283	296	278	257	304	319	299	327	362	350	299	658	577	445	5,054	361	0·36	325	0·33
	9	Kaládgi	816,037	209	235	158	193	231	235	251	228	286	267	242	488	452	517	3,992	285	0·35	306	0·38
Konkan.	10	Kánara	398,406	304	183	197	169	178	216	199	239	185	221	221	262	291	194	3,059	218	0·55	200	0·50
	11	Ratnágiri ..	1,019,136	262	243	225	265	246	343	332	365	373	387	334	433	457	546	4,811	344	0·34	439	0·43
	12	Kolába	350,405	..	..	..	33	86	136	142	157	133	128	126	134	122	115	1,312	94	0·27	115	0·33
	13	Bombay City ..	644,405	359	258	299	228	253	268	284	221	227	260	254	351	359	398	4,014	287	0·45	330	0·51
	14	Thána	847,424	271	332	321	297	297	312	417	365	446	430	391	483	505	420	5,287	378	0·45	398	0·47
Gujarát.	15	Surat	607,087	170	116	182	174	160	203	305	256	225	268	242	292	260	316	3,169	226	0·37	265	0·44
	16	Broach	350,322	..	..	47	73	73	146	101	142	141	135	123	120	151	157	1,409	101	0·28	100	0·28
	17	Kaira	782,733	183	202	192	234	174	276	278	245	327	297	274	352	342	388	3,764	269	0·34	363	0·46
	18	Panch Mahás ..	240,743	61	65	51	61	61	99	101	110	135	117	97	137	153	130	1,378	98	0·41	102	0·42
	19	Ahmedabad ..	829,637	118	107	73	337	289	346	261	271	290	306	256	357	195	218	3,419	244	0·29	214	0·26
Sind.	20	Karáchi	423,495	251	191	172	188	209	138	214	226	271	300	327	303	302	279	3,371	241	0·57	259	0·61
	21	Hyderabad ..	721,947	197	307	367	312	190	905	581	428	461	494	503	450	594	516	6,305	450	0·62	454	0·63
	22	Thar and Párkar.	180,761	16	3	1	19	69	96	57	65	81	96	95	91	73	58	820	58	0·32	77	0·43
	23	Shikárpur ..	776,227	25	138	140	178	208	517	..	295	352	301	313	276	317	257	3,317	237	0·31	282	0·37
	24	Upper Sind Frontier.	89,985	17	21	29	33	26	41	35	42	40	32	69	40	40	20	485	35	0·38	20	0·22

ABSTRACT.

Northern Deccan	4,162,235	1,391	938	1,034	1,243	1,088	1,079	1,309	1,243	1,109	1,113	1,108	1,295	1,421	1,280	16,651	1,189	0·29	1,124	0·27
Southern do.	3,803,326	1,050	989	833	869	983	1,158	1,188	1,281	1,369	1,332	1,195	2,163	1,968	1,820	18,198	1,300	0·34	1,340	0·35
Konkan	3,259,776	1,196	1,011	1,042	992	1,060	1,275	1,374	1,347	1,364	1,426	1,326	1,663	1,734	1,673	18,483	1,321	0·40	1,482	0·45
Gujarát	2,810,522	532	490	545	879	757	1,070	1,046	1,024	1,118	1,123	992	1,258	1,101	1,204	13,139	938	0·33	1,044	0·37
Sind	2,192,415	506	660	709	730	702	1,697	887	1,056	1,205	1,223	1,307	1,160	1,326	1,130	14,298	1,021	0·47	1,092	0·49
	16,228,774	4,675	4,088	4,163	4,713	4,590	6,279	5,804	5,951	6,165	6,217	5,928	7,539	7,550	7,107	80,769	5,769	0·36	6,082	0·37

116. The next table gives the deaths from snake-bites month by month from 1875 to 1880 inclusive, and the means for that period are contrasted with the totals for 1880. The cases were most frequent during the rainy season, as they usually are :—

Months.	Years.						
	1875.	1876.	1877.	1878.	1879.	Mean for 5 years.	1880.
January	23	43	18	33	29	29	26
February	19	32	16	23	28	24	20
March	56	47	41	52	37	47	49
April	68	57	34	52	51	52	50
May	83	82	105	88	96	91	94
June	169	148	143	100	128	138	159
July	166	193	178	126	146	162	177
August	184	160	232	123	133	166	150
September...	164	156	183	161	141	161	159
October	153	154	112	122	154	139	177
November...	80	58	75	64	63	68	78
December	42	34	44	39	38	39	40
Total ...	1,207	1,164	1,181	983	1,044	1,116	1,179

17. They are similarly shown by localities, and, as usual, the highest number (193) is from Hyderabad; Ratnágiri follows with 174; Thána with 107. For Upper Sind Frontier there were only 2 deaths:—

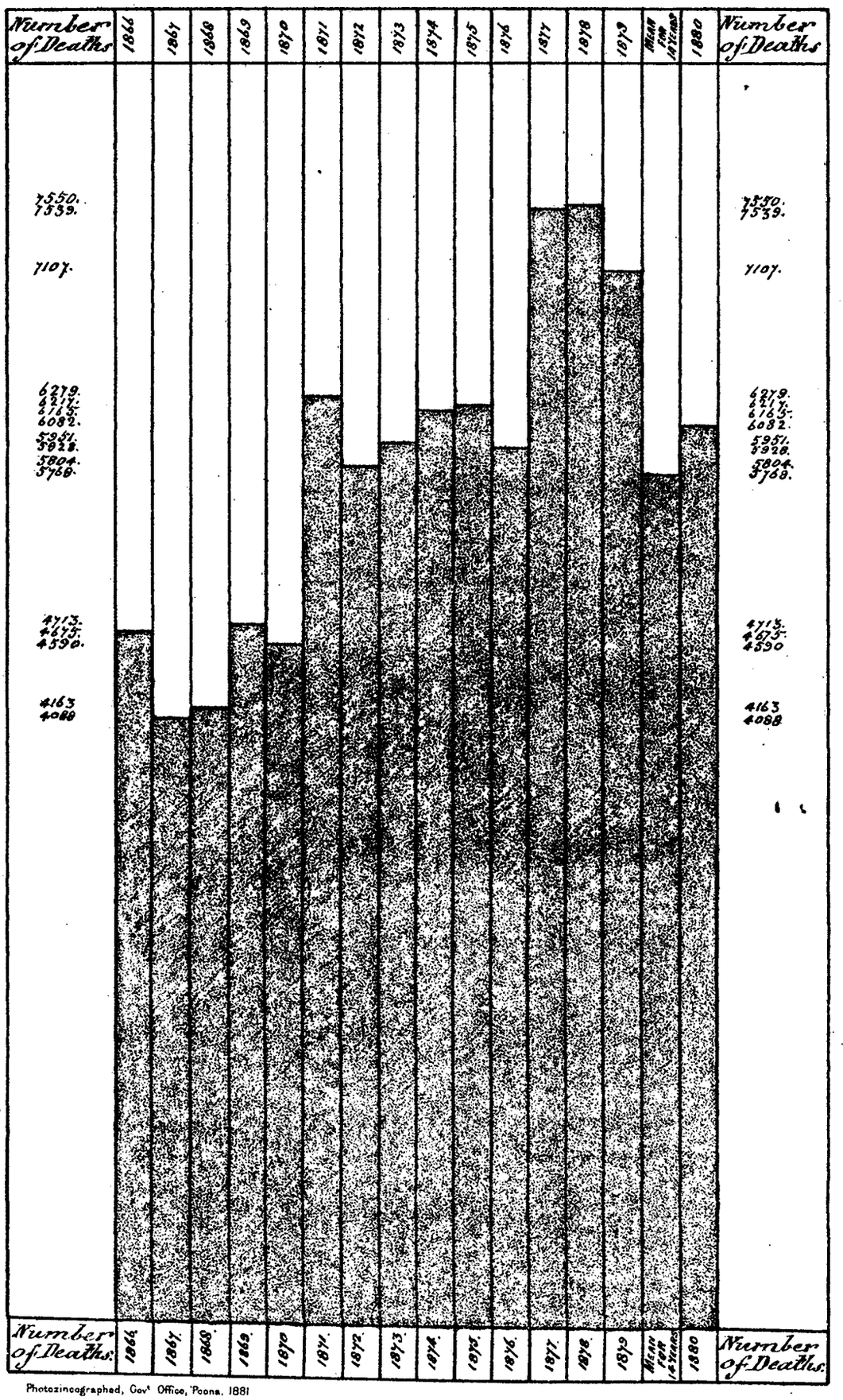
Districts.	Years.						
	1875.	1876.	1877.	1878.	1879.	Mean for five years.	1880.
Khándesh	40	34	41	24	34	35	39
Násik	32	22	10	9	21	19	29
Ahmednagar	8	15	11	9	7	10	26
Poona	27	34	19	25	25	26	26
Sholápur	47	49	4	9	2	22	11
Sátára	10	10	41	34	49	29	51
Belgaum	26	35	28	31	23	29	31
Dhárwár	34	25	16	18	29	24	23
Kaládgi...	23	26	13	7	18	17	19
Kánara	23	30	37	33	25	30	20
Ratnágiri	144	123	102	151	159	136	174
Kolába	26	24	19	28	20	23	24
Bombay City	8	8	3	6	6	6	10
Thána	108	90	129	103	122	110	107
Surat	45	54	48	35	40	44	50
Broach	26	27	28	14	16	22	14
Kaira	73	54	90	50	46	63	79
Panch Maháls	42	39	60	21	25	38	36
Ahmedabad	80	52	58	28	42	52	39
Karáchi...	78	94	98	64	71	81	87
Hyderabad	183	199	206	195	190	195	193
Thar and Párkar	49	50	57	27	29	42	42
Shikárpur	66	60	55	59	43	57	46
Upper Sind Frontier	9	10	8	3	2	6	3
	1,207	1,164	1,181	983	1,044	1,116	1,179

118. The diagram on the opposite page shows for the Bombay Presidency the mortality from Injuries from 1866 to 1879 inclusive, the mean for 14 years, and the mortality for 1880.

19. In the following table the deaths from injuries are detailed under specified headings, and it will be seen that of the 2,869 deaths by drowning, 521 were suicidal and 2,138 were accidental; 210 are entered as "otherwise," and this means that, when the return was made up, the suspicion attaching to these cases had not been cleared up: they could neither be pronounced suicidal nor accidental. There were 1,592 deaths by drowning in wells against 2,099 in 1879. Of the 785 suicidal deaths against 1,022 in 1879, 521 were by drowning, 23 by poisoning, 216 by hanging, and 25 by wounding.

Diagram

showing for the Bombay Presidency the mortality from Injuries from 1866 to 1879 inclusive, the mean for 14 years, and the mortality for 1880.



Photozincographed, Gov^t Office, Poona. 1881

Statement showing Detail of Deaths by Violence in the Collectorate of the Bombay Presidency for the Year 1880.

Detail of Deaths by Violence in the Collectorate

1		2																														Poi		
		DROWNING.																																
		Suicidal.									Accidental.									Otherwise.												Suicidal.		
	Districts.	Well.			Tank.			Otherwise			Well.			Tank.			Otherwise.			Well.			Tnnk.			Otherwise.								
		Male.	Female.	Total.	Male	Female.	Total.	Male.	Female.	Total	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Deccan.	1. Khándesh	13	13	26	...	1	1	1	3	4	25	40	65	4	6	10	13	14	27	2	4	6	1	1	2	3	1	4	..	...	...			
	2. Násik	2	7	9	...	...	...	...	1	1	12	21	33	1	1	2	10	8	18	1	...	1	..	...	...	3	5	8	3	1	4			
	3. Ahmednagar	4	11	15	2	...	2	1	3	4	30	35	65	3	5	8	7	9	16	1	4	5	...	...	...	2	1	3	1	3	4			
	4. Poona	3	12	15	2	1	3	...	1	1	40	62	102	3	7	10	19	13	32	3	4	7	...	...	...	7	9	16	...	3	3			
	5. Sholápur	5	14	19	...	...	...	1	...	1	40	71	111	2	1	3	14	12	26	1	...	1	...	...	...	1	1	2	...	...	...			
	6. Sátára	7	13	20	2	2	4	1	3	4	45	77	122	4	1	5	26	22	48	2	4	6	...	...	...	4	5	9	1	3	4			
	7. Belgaum	15	45	60	...	2	2	...	2	2	41	54	95	3	5	8	8	11	19	2	1	3	...	1	1	5	5	10	...	1	1			
	8. Dhárwár	21	61	82	3	3	6	1	3	4	21	48	69	15	10	25	6	10	16	1	4	5	1	..	1	4	2	6	1	...	1			
	9. Kaládgi	17	50	67	3	1	4	2	3	5	18	55	73	9	1	10	15	10	25	1	2	3	...	...	...	2	1	3	6	...	6			
Konkan.	10. Kánara	4	2	6	1	1	2	1	3	4	12	11	23	7	5	12	25	20	45	...	...	...	1	...	1	...	1	1	2	...	2			
	11. Ratnágiri	4	6	10	2	1	3	2	6	8	6	33	39	7	2	9	37	20	57	...	1	1	...	...	...	16	7	23	1	1	2			
	12. Kolába	...	...	...	...	...	...	...	...	...	7	22	29	4	2	6	12	5	17	...	1	1	1	...	1	..	1	1	1	...	1			
	13. Bombay City	11	15	26	9	10	19	2	...	2	10	3	13	17	1	18	10	2	12	1	1	2	2	1	3	3	2	5	13	5	18			
	14. Thána	3	10	13	...	1	1	4	...	4	21	42	63	7	8	15	28	14	42	...	...	...	...	...	...	10	8	18	1	...	1			
Gujarát.	15. Surat	8	7	15	1	...	1	1	3	4	9	31	40	9	6	15	32	10	42	...	1	1	...	1	1	2	3	5	...	...	...			
	16. Broach	6	6	12	...	...	...	...	...	...	6	15	21	5	5	10	4	3	7	1	...	1	...	...	...	...	...	...	...	...	...			
	17. Kaira	8	9	17	...	...	...	...	...	...	19	40	59	20	21	41	4	1	5	...	1	1	1	2	3	1	3	4	1	..	1			
	18. Panch Mahás	...	1	1	...	...	...	...	...	...	3	7	10	1	2	3	3	1	4	1	2	3	...	...	...	...	...	...	...	...	...			
	19. Ahmednagar	2	4	6	.	1	1	1	1	2	9	36	45	9	5	14	12	1	13	2	2	4	...	...	...	1	1	2	1	1	2			
Sind.	20. Karáchi	...	...	...	...	...	...	...	...	...	2	4	6	3	6	9	35	31	66	...	...	...	1	1	2	3	2	5	...	...	...			
	21. Hyderabad	...	...	...	...	...	...	...	...	...	12	8	20	29	24	53	43	34	77	...	...	...	...	1	1	...	1	1	...	...	...			
	22. Thar and Párkar	...	...	...	2	...	2	..	...	...	2	...	2	8	1	9	4	3	7	...	...	...	...	...	...	2	...	2	...	...	...			
	23. Shikárpur	...	1	1	...	...	...	...	...	...	11	4	15	28	12	40	36	23	59	1	...	1	1	...	1	8	5	13	...	...	...			
	24. Upper Sind Frontier ...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...			
	Total ...	133	287	420	27	24	51	18	32	50	401	719	1,120	199	138	337	404	277	681	20	32	52	9	8	17	77	64	141	32	18	50			

of the Bombay Presidency for the year 1880.

3						4						5									6			7			8			9		
SONING.						HANGING.						WOUNDING.																				
Accidental.			* Otherwise.			Suicidal.			Accidental.			Suicidal.			Accidental.			* Otherwise.			WILD BEASTS.			SNAKE-BITE.			OTHER CAUSES.			TOTAL.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
...	...	...	...	...	...	3	1	4	...	...	...	2	...	2	4	1	5	5	...	5	1	...	1	29	10	39	41	15	56	147	110	257
...	...	...	1	...	1	2	...	2	...	...	...	1	...	1	1	...	1	1	...	1	9	5	14	13	16	29	28	16	44	88	81	169
...	...	...	2	...	2	1	...	1	1	...	1	1	...	1	6	1	7	5	1	6	...	...	...	16	10	26	16	7	23	99	90	189
2	1	3	6	1	7	...	1	1	...	...	...	...	...	...	...	...	...	4	2	6	1	...	1	13	13	26	45	19	64	148	149	297
1	...	1	1	...	1	4	...	4	...	...	...	1	...	1	10	...	10	2	3	5	1	1	2	8	3	11	10	4	14	102	110	212
...	...	...	...	...	...	11	3	14	...	...	...	...	...	...	12	1	13	7	1	8	3	1	4	28	23	51	42	16	58	195	175	370
...	1	1	...	1	1	18	4	22	...	...	...	2	...	2	16	9	25	12	4	16	4	2	6	15	16	31	26	8	34	167	172	339
...	...	...	...	...	...	23	6	29	...	1	1	3	...	3	11	3	14	8	3	11	1	...	1	18	5	23	20	8	28	158	167	325
...	...	...	2	...	2	25	4	29	1	...	1	...	...	...	15	6	21	9	3	12	...	1	1	11	8	19	16	9	25	152	154	306
..	...	...	...	...	...	5	7	12	2	2	4	...	...	...	5	2	7	5	2	7	8	...	8	10	10	20	34	12	46	122	78	200
...	...	...	...	...	...	9	2	11	...	...	...	...	...	...	3	..	3	...	...	...	2	5	7	115	59	174	62	30	92	266	173	439
1	...	1	...	1	1	3	1	4	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	11	13	24	21	8	29	61	54	115
6	3	9	...	...	..	3	1	4	...	...	...	..	1	1	..	1	1	...	..	...	...	...	...	7	3	10	131	56	187	225	105	330
2	1	3	...	2	2	11	6	17	1	...	1	1	...	1	17	4	21	10	2	12	5	...	5	67	40	107	58	14	72	246	152	398
...	...	...	1	1	2	3	...	3	...	...	...	2	...	2	3	...	3	6	1	7	3	2	5	37	13	50	52	18	70	168	97	265
...	...	...	...	...	...	2	1	3	...	...	...	...	...	...	1	...	1	4	1	5	3	4	7	8	6	14	14	5	19	54	46	100
2	...	2	1	...	1	6	10	16	2	3	5	...	...	...	13	1	14	5	3	8	8	3	11	33	46	79	66	30	96	190	173	363
...	...	...	...	...	...	2	3	5	...	...	...	1	...	1	2	...	2	...	1	1	11	4	15	23	13	36	16	5	21	63	39	102
2	...	2	...	...	...	7	2	9	2	2	4	5	...	5	4	5	9	2	2	4	9	5	14	22	17	39	20	19	39	110	104	214
...	...	...	...	...	...	1	...	1	2	2	4	2	...	2	6	2	8	2	2	4	21	3	24	63	24	87	26	15	41	167	92	259
...	...	...	2	...	2	2	6	8	...	...	...	1	1	2	1	1	2	6	4	10	7	2	9	152	41	193	60	16	76	315	139	454
...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	...	1	1	1	2	3	4	2	6	25	17	42	1	...	1	50	27	77
...	...	...	...	...	...	8	7	15	...	1	1	1	...	1	15	5	20	4	3	7	2	...	2	32	14	46	46	14	60	193	89	282
1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	3	...	3	4	1	5	...	...	...	3	...	3	3	2	5	16	4	20
17	6	23	15	6	21	150	66	216	11	11	22	23	2	25	148	43	191	102	41	143	103	40	143	759	420	1,179	854	346	1,200	3,502	2,580	6,082

Other Causes.

120. The recorded deaths from causes other than those specified were numbered 49,736, and by sexes they are 26,104 of males and 23,632 of females. The total for 1879 was 59,467, so for this year there is a decrease of 9,731. In the following table deaths from other causes are shown for each district since 1866, there are also given totals for 14 years, means and ratios per 1,000 of population, and the numbers and ratios for 1880:—

Division.	Number.	Districts.	Population according to Census of 1872.	Deaths from "Other Causes."																1880.	Ratio per 1,000 of Population.
				1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	Total of 14 years.	Mean for 14 years.	Ratio per 1,000 of Population.		
Northern Deccan.	1	Khándesh ..	1,023,742	962	1,697	1,164	1,481	906	1,036	1,172	612	709	1,595	640	678	1,481	515	14,648	1,046	1·02	586	0·57
	2	Násik	734,386	..	..	..	726	1,032	2,089	2,618	2,024	2,136	2,067	2,121	2,244	2,450	1,298	21,705	1,550	2·11	1,427	1·93
	3	Ahmednagar ..	773,938	2,520	2,310	3,096	2,540	2,239	2,160	2,441	1,666	1,913	3,047	3,015	3,649	3,015	2,266	35,877	2,563	3·31	2,124	2·75
	4	Poona	907,285	1,994	2,077	2,304	2,619	2,997	3,379	4,808	3,481	2,830	2,943	2,803	3,481	3,245	1,625	41,030	2,935	3·23	1,838	2·02
	5	Sholápur ..	718,034	1,404	932	1,536	2,800	1,907	2,286	2,910	2,256	2,806	3,261	4,012	10,375	3,962	8,492	48,939	3,496	4·87	2,041	2·84
Southern Deccan.	6	Sátára	1,061,002	2,985	2,654	3,264	3,605	3,296	3,707	3,294	2,668	2,342	2,794	2,562	4,542	3,488	2,016	43,217	3,087	2·91	2,178	2·05
	7	Belgaum ..	938,750	4,750	3,365	4,126	6,395	5,807	5,395	7,420	7,044	8,437	6,653	9,259	29,347	9,062	5,421	115,411	8,244	8·78	4,943	5·26
	8	Dhárwár ..	988,037	4,366	3,394	4,172	4,737	4,820	5,894	6,582	6,165	5,304	5,158	5,694	19,633	6,735	3,850	86,502	6,179	6·26	3,982	4·03
	9	Kaládgi	816,037	2,504	991	1,507	2,259	2,832	2,959	5,990	3,450	4,358	3,818	4,068	27,290	4,121	3,827	70,034	5,003	6·13	1,805	2·20
Konkan.	10	Kánara	393,406	1,350	1,623	1,778	2,585	2,861	2,874	3,006	3,720	3,393	3,414	3,332	5,015	3,766	3,504	42,771	3,055	7·67	3,635	9·12
	11	Ratnágiri ..	1,019,136	4,045	3,300	3,362	4,162	4,060	4,844	3,982	5,193	4,102	4,899	4,823	6,034	5,031	5,093	63,092	4,507	4·42	3,826	3·76
	12	Kolába	350,405	..	..	..	153	433	648	890	719	577	844	860	1,070	1,242	1,193	8,629	616	1·76	1,013	2·89
	13	Bombay City ..	644,405	4,527	7,365	7,479	8,781	8,284	7,223	8,245	7,400	7,676	9,577	8,961	13,076	11,876	10,187	120,616	8,615	13·37	11,233	17·43
	14	Thána	847,424	972	981	1,076	1,227	1,375	2,263	2,028	1,934	1,555	2,205	1,716	2,242	2,204	1,887	23,670	1,691	1·99	1,473	1·74
Gujarát.	15	Surat	607,087	2,828	2,699	2,889	3,972	3,342	2,656	3,320	3,392	2,393	2,314	1,902	1,711	1,799	1,705	36,935	2,638	4·35	1,404	2·31
	16	Broach	350,322	..	..	857	1,913	1,116	1,529	1,020	1,051	640	614	412	603	993	709	11,523	823	2·35	436	1·25
	17	Kaira	782,733	2,109	2,614	1,953	2,560	1,627	3,212	2,208	1,456	996	1,186	1,103	992	1,076	788	23,886	1,706	2·19	922	1·18
	18	Panch Mahális ..	240,743	76	70	41	54	28	66	67	85	18	28	39	45	2,553	126	3,303	236	0·98	80	0·33
	19	Ahmedabad ..	829,637	173	126	81	1,341	737	3,019	3,756	3,902	3,893	4,430	4,120	3,697	4,414	3,131	36,820	2,630	3·17	2,798	3·37
Sind.	20	Karáchi ..	423,495	552	287	459	920	705	861	744	921	799	815	981	1,115	1,042	871	11,022	787	1·86	1,100	2·60
	21	Hyderabad ..	721,947	1,030	836	906	721	422	901	824	659	469	687	570	871	666	522	10,094	720	1·00	465	0·64
	22	Thar and Párkar	180,761	54	9	62	24	29	61	22	8	14	58	40	134	219	63	795	57	0·32	259	0·37
	23	Shikárpur ..	776,227	420	298	286	328	225	515	..	471	344	286	306	544	229	254	4,456	318	0·41	201	0·26
	24	Upper Sind Frontier.	89,995	32	22	8	8	2	44	42	54	65	58	38	38	69	65	540	39	0·43	67	0·75

ABSTRACT.

Northern Deccan	4,162,235	6,880	7,016	8,100	10,166	9,081	11,450	13,949	10,039	10,394	13,813	12,591	20,427	14,153	14,196	162,255	11,590	2·78	8,016	1·93
Southern do.	3,803,826	14,605	10,404	13,129	16,996	16,755	17,953	23,286	19,327	20,441	20,453	21,583	89,812	24,306	15,114	315,164	22,512	5·92	12,908	3·36
Konkan	3,253,776	10,894	13,368	13,695	16,908	16,963	17,857	18,151	18,978	17,363	20,939	20,242	27,437	24,119	21,864	268,778	18,484	5·67	21,180	6·50
Gujarát	2,810,522	5,188	5,509	5,821	9,840	6,850	10,482	10,386	9,886	7,951	8,672	7,561	7,018	10,839	6,518	112,471	8,033	2·86	5,640	2·01
Sind	2,192,415	2,088	1,452	1,666	2,001	1,383	2,392	1,632	2,113	1,691	1,902	1,885	2,702	2,225	1,775	26,897	1,921	0·88	1,992	0·91
Total ..	16,226,774	39,655	37,749	42,411	55,911	51,032	60,124	67,404	60,343	57,840	65,679	63,882	138,426	75,642	59,467	875,565	62,540	3·85	49,736	3·06

SECTION III.

GENERAL HISTORY OF VACCINATION.

121. Although the last section of this Report was finished, and sent to Press on the 19th April, this section had not then been taken in hand, nor could it have been. The Vaccination year is not the Calendar year; the Returns are not due before the 15th April; they are seldom received until the end of that month, and until they are received, the general compilation cannot be undertaken.

Changes amongst the Supervising Officers.

122. The changes amongst the Supervising Officers during 1880-81 (1st April 1880 to 31st March 1881) were as follows:—

(*a*) In the Southern Deccan Registration District Dr. Lewis, Civil Surgeon of Belgaum, held charge of the office from 8th August 1880 to 28th March 1881, inclusive, during which period Dr. Clarkson, the acting incumbent, was transferred to Military duty beyond the Frontier.

(*b*.) In the Konkan Dr. Channer was allowed privilege leave for three months, commencing from 1st August 1880, but was subsequently recalled, owing to his services being emergently required in the Field. During his absence the office duties were conducted by Dr. Parker, Acting Deputy Sanitary Commissioner, Northern Deccan Registration District, from 1st August 1880 to 31st January 1881, inclusive, in addition to his own duties.

(*c*.) In Sind Dr. MacRury was transferred to Military duty, and Dr. Adey, Civil Surgeon of Karáchi, held charge of the office from 7th August to 23rd November 1880, inclusive.

Drs. Parker, Clarkson and Channer have now been confirmed in their acting appointments of Deputy Sanitary Commissioners, Northern Deccan, Southern Deccan and Konkan Registration Districts, as Drs. Cody and Nolan have permanently left the Department, and as Dr. Wall has retired from the service.

Strength of the Department.

123. The subjoined table shows in detail the changes in the strength of the Department during the years 1880-81 and 1879-80:—

No.	Districts and Circles.	Area in Square Miles.	Population according to Census of 1872.	Years.	Deputy Sanitary Commissioners.	Superintendents of Vaccination.	Inspectors of Sanitation and Vaccination.	Assistant Superintendents of Vaccination.	Clerks and Kárkúns.	Number of Vaccinators. Government. Civil.	Government. Military.	Municipal.	Cantonment.	Local Funds.	Native States.	Total.	Number of Peons. Government.	Municipal.	Local Funds.	Native States.	Total.	Total Strength.
1	Northern Deccan Registration District.	38,614	4,496,187	1879-80..	1	..	7	..	2	..	..	9	1	66	1	77	11	8	66	1	86	173
				1880-81..	1	..	7	..	2	..	..	9	1	66	1	77	11	8	66	1	86	173
2	Southern Deccan Registration District.	23,021	5,564,665	1879-80..	1	..	6	1	2	..	..	7	..	43	30	80	9	7	43	31	90	180
				1880-81..	1	..	6	1	2	..	..	6	..	47	30	83	9	6	47	32	94	187
3	Konkan Registration District	15,143	2,915,587	1879-80..	1	..	4	..	2	..	..	2	..	42	3	47	8	2	42	6	58	112
				1880-81..	1	..	4	..	2	..	..	2	..	42	3	47	8	2	42	6	58	112
4	Presidency Circle ..	22	644,405	1879-80..	..	1	..	1	2	..	..	9	..	..	..	9	..	3	..	..	3	16
				1880-81..	..	1	..	1	15	..	..	9	..	..	..	9	..	3	..	..	3	29
5	Eastern Gujarát Registration District.	19,783	3,977,490	1879-80..	1	..	5	..	2	..	..	7	..	35	19	61	9	7	36	16	68	137
				1880-81..	1	..	5	..	2	..	..	6	..	37	19	62	9	7	37	16	69	139
6	Western Gujarát Circle	26,880	2,815,215	1879-80..	..	1	..	2	2	2	..	..	..	..	41	43	8	..	..	41	49	97
				1880-81..	..	1	..	2	2	2	..	..	..	..	41	43	8	..	..	41	49	97
7	Sind Registration District	49,307	2,323,765	1879-80..	1	1	6	..	2	..	..	8	..	43	2	53	10	6	43	2	61	124
				1880-81..	1	1	6	..	2	..	..	7	..	49	2	58	10	5	49	2	66	134
8	Baroda Circle ..	10,767	2,060,295	1879-80..	..	..	3	..	..	..	..	..	..	..	31	31	..	..	..	34	34	68
				1880-81..	..	..	3	..	..	..	..	..	..	..	31	31	..	..	..	34	34	68
9	Cutch Circle	6,500	487,305	1879-80..	..	..	..	1	..	..	..	..	..	..	15	15	..	..	..	16	16	32
				1880-81..	..	..	..	1	..	..	..	..	..	..	17	17	..	..	..	19	19	37
10	Aden	11	19,289	1879-80..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	..	1	2
				1880-81..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	..	1	2
	Military Stations ..	..	32,611	1879-80..	..	..	..	..	..	..	3	..	..	..	..	3	..	..	..	..	..	3
				1880-81..	..	..	..	..	..	..	3	..	..	..	..	3	..	..	..	..	..	3
	Total ..	194,548	25,065,744	1879-80..	5	3	31	5	14	2	3	43	1	229	142	420	55	34	230	147	466	944
				1880-81..	5	3	31	5	27	3	3	40	1	241	144	431	55	32	241	151	479	991

In the Southern Deccan, although the Ilkal Municipality has withdrawn its grant for maintaining a vaccinator and a peon in the town, there has been, on the whole, an increase for the year of 3 vaccinators and 3 peons, an additional establishment having been provided for by the Dhárwár Local Fund Committee. In the Presidency Circle the establishment was supplemented by an addition of 13 kárkúns. In Eastern Gujarát there has been a decrease of 1 vaccinator and 1 peon, paid by the Viramgám Municipality; but 2 more have been entertained by the Ahmedabad Local Fund Committee in the Tálukas of Daskroi and Viramgám. In Sind 6 vaccinators and 6 peons have been added to those on the Local Fund list by the Local Fund Committees of Hyderabad, Thar and Párkar and Shikárpur; but one vaccinator and a peon were discharged in the town of Jacobabad. Two additional vaccinators and 2 peons were entertained in Cutch. On the whole, there has been an increase of 11 vaccinators and 13 peons—in all 37 persons.

Work amongst the Civil and Military population.

124. The following table contrasts the work amongst the Civil and Military population during the year under report with that for 1879-80 :—

Establishment.	Persons Primarily vaccinated.			Persons Revaccinated.				Total Number of Persons operated on.		
	1879-80.	1880-81.	Increase.	1879-80.	1880-81.	Increase.	Decrease.	1879-80.	1880-81.	Increase.
In Civil Life.										
Itinerant	563,698	615,559	51,861 9·20	58,531	54,557	..	3,974 6·79	622,229	670,116	47,887 7·69
Dispensary	19,119	22,732	3,613 18·90	2,643	2,479	..	164 6·21	21,762	25,211	3,449 15·39
Total ..	582,817	638,291	55,474 9·52	61,174	57,036	..	4,138 6·76	643,991	695,327	51,336 7·97
In Army Life.										
Native Army	3,049	3,555	506 16·60	1,508	2,837	1,329 88·13	..	4,557	6,392	1,835 40·26
British Army	635	659	24 3·78	440	2,606	2,166 492·27	..	1,075	3,265	2,190 203·72
Total ..	3,684	4,214	530 14·39	1,948	5,443	3,495 179·41	..	5,632	9,657	4,025 71·47
Total for the whole Presidency	586,501	642,505	56,004 9·55	63,122	62,479	3,495 5·54	4,138 6·56	649,623	704,984	55,361 8·52

It will be observed that there were 642,505 persons primarily vaccinated, and 62,479 revaccinated, against 586,501 and 63,122 in 1879-80: showing an increase of 56,004, or 9·55 per cent., under primary vaccinations, and a slight decrease of 643, or 1·02 per cent., under revaccinations. There was a considerable increase (3,495 persons) under revaccinations amongst Native and European Troops alone; the rate was 17,941 per cent., the figures being 5,443 against 1,948 in the preceding year. The rate of decrease in revaccinations was 6·21 per cent. in the work of Dispensaries, and 6·79 in that of the Itinerant Establishment. On the whole, there has been an increase of 55,361, or, in other words, for every 100 persons operated on in 1879-80, the numbers for this year have been 108·52.

The number of the surviving newly-born children successfully vaccinated in each Collectorate.

125. The following table shows the number of surviving newly-born children successfully vaccinated in each Collectorate, exclusive of Native States, for the last two years. The birth and death statistics are taken for the calendar year in calculating the number, because infants are generally not vaccinated until three months after birth :—

No.	Collectorates.	Years.	Children Vaccinated Successfully.		Children available for Vaccination.	Births returned as having been registered.	Deaths registered among Children under 1 year.
			Those under 1 year.	Those between 1 and 6 years.			
1	Khándesh	1879-80 ...	16,790	12,008	22,123	25,504	3,381
		1880-81 ...	20,417	14,266	25,887	30,752	4,865
2	Násik	1879-80 ...	12,035	5,317	18,200	20,501	2,301
		1880-81 ...	13,910	5,578	21,065	22,992	1,927
3	Ahmednagar	1879-80 ...	12,757	5,731	16,576	18,968	2,392
		1880-81 ...	16,010	5,844	17,219	20,086	2,867
4	Poona	1879-80 ...	8,318	8,795	14,022	15,139	1,117
		1880-81 ...	10,232	7,572	16,337	18,199	1,862
5	Sholápur	1879-80 ...	5,157	5,810	5,630	6,718	1,088
		1880-81 ...	7,089	4,495	7,323	8,559	1,236
6	Sátára	1879-80 ...	16,415	8,782	24,201	27,093	2,892
		1880-81 ...	17,915	8,871	28,042	31,914	3,872
7	Belgáum	1879-80 ...	6,993	7,854	16,702	19,170	2,468
		1880-81 ...	9,149	7,342	21,185	24,184	2,999
8	Dhárwár	1879-80 ...	5,535	6,119	14,210	16,927	2,717
		1880-81 ...	8,818	7,211	24,126	28,456	4,330
9	Kaládgi...	1879-80 ...	4,038	4,863	6,160	6,798	638
		1880-81 ...	5,718	4,083	9,587	10,825	1,238
10	Kánara...	1879-80 ...	1,269	5,765	7,675	9,582	1,907
		1880-81 ...	2,216	5,368	10,535	12,873	2,338
11	Ratnágiri	1879-80 ...	10,547	11,279	12,352	13,609	1,257
		1880-81 ...	10,964	9,423	11,529	12,483	954
12	Kolába...	1879-80 ..	5,125	2,777	6,643	7,351	708
		1880-81 ...	5,806	3,048	6,716	7,624	908
13	Thána	1879-80 ...	9,712	10,198	18,324	20,442	2,118
		1880-81 ...	12,251	9,760	21,705	23,461	1,756
14	Bombay City	1879-80 ...	7,825	2,722	9,067	14,341	5,274
		1880-81 ...	10,416	2,861	10,893	16,997	6,104
15	Surat	1879-80 ...	9,709	5,177	10,610	13,063	2,453
		1880-81 ...	8,595	5,135	13,329	15,897	2,568
16	Broach	1879-80 ...	4,328	1,999	2,866	4,177	1,311
		1880-81 ...	4,253	1,520	4,439	5,861	1,422
17	Kaira	1879-80 ..	14,712	3,567	13,713	17,287	3,574
		1880-81 ..	14,277	3,118	20,002	24,415	4,413
18	Panch Mahás	1879-80 ...	2,539	2,169	1,993	2,468	475
		1880-81 ...	4,235	1,469	7,072	7,970	898
19	Ahmedabad	1879-80 ...	14,187	4,024	11,771	15,321	3,550
		1880-81 ...	16,215	4,777	14,910	17,834	2,924
20	Karáchi	1879-80 ...	8,346	5,771	2,719	3,310	671
		1880-81 ...	9,586	5,861	6,667	7,907	1,240
21	Hyderabad	1879-80 ...	10,279	8,000	3,137	3,950	813
		1880-81 ..	11,056	8,868	6,711	7,650	939
22	Thar and Párkar	1879-80 ...	2,763	3,659	1,204	1,451	247
		1880-81 ...	4,602	3,915	4,273	4,689	416
23	Shikárpur	1879-80 ..	17,026	10,294	2,984	3,882	898
		1880-81 ...	21,049	7,564	7,559	8,511	952
24	Upper Sind Frontier...	1879-80 ...	2,749	2,089	629	738	109
		1880-81 ...	2,570	1,314	669	734	65
	Total ...	1879-80 ...	209,154	144,769	243,511	287,870	44,359
		1880-81 ...	247,949	139,263	315,780	370,873	55,093

This year the successful vaccinations fell short of the registered births *minus* deaths, amongst those under 1 year old, in the total number of Districts as well as in the first eighteen, except in Sholápur, out of the twenty-four Collectorates, and yet the figures are higher than those for last year in the return of newly-born children, and also there is a greater proportionate number of successful cases in most of the Districts, except Surat, Broach and Kaira. On the whole, out of 315,780 surviving infants available for vaccination, 247,949, or 78·52 per cent., have been protected.

Primary Vaccinations.

126. The next table shows the number of persons primarily vaccinated, as also the increase or decrease for each of the last ten years:—

Primarily Vaccinated.	Years ended 31st March.										
	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.
Persons	496,582	527,153	570,025	625,818	671,817	690,639	732,184	670,055	561,969	536,501	642,505
Increase	..	30,571	42,872	55,793	45,999	18,822	41,545	(Decrease). 62,129	108,086	24,532	56,004

Out of 642,505 persons primarily vaccinated, 616,513 cases were successful, or 95·95 per cent., against 95·11 in 1879-80 and 94·53 in 1878-79: thus showing that there was an improvement in the quality and the quantity of the work performed during the year. The number of unsuccessful cases also compares favourably with that of the previous year, being 14,721 against 15,178. Secondary operations, after the failure of the first, were performed on 2,678 persons, and 15,949 persons escaped observation. The following table shows the number of persons primarily vaccinated, and the success among them for the past ten years :—

Results in Primary Vaccinations.

	Years ended 31st March.									
	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.
Number of Persons primarily vaccinated.	527,153	570,025	625,818	671,817	690,639	732,184	670,055	561,969	586,501	642,505
Do. successfully.	486,018	518,726	568,275	635,982	660,556	698,148	630,590	531,221	557,840	616,513
Percentage of Success ..	92·20	90·65	90·81	94·67	95·64	95·35	94·11	94·53	95·11	95·95

Revaccinations.

127. The number of persons revaccinated and the success among them for the last ten years are given below :—

	Years ended 31st March.									
	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.
Number of Persons revaccinated.	21,965	18,332	26,405	60,807	117,714	82,993	80,893	69,177	63,122	62,479
Do. successfully.	13,038	10,362	14,894	45,618	94,468	66,770	60,847	49,830	45,435	45,481
Percentage of Success ..	59·35	56·52	56·41	75·02	80·25	80·45	75·22	72·03	71·98	72·79

Results in Revaccinations.

During the year 62,479 persons were revaccinated against 63,122 for 1879-80. In 139 instances the revaccinations were repeated; in 6,336 instances the results could not be ascertained; and in 10,801 it failed. The number of successful cases was 45,481, or 72·79 per 100, against 71·98 in the preceding year.

Total Operations.

128. The subjoined table shows the total number of persons primarily vaccinated and revaccinated (as taken together), as also the number of successful cases during each of the last ten years :—

	Years ended 31st March.									
	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.
Persons operated on	549,118	598,357	652,223	732,624	808,353	815,177	750,948	631,146	649,628	704,984
Do. successfully.	499,056	527,088	583,169	681,600	755,024	764,918	691,437	581,051	603,275	661,994
Percentage of Success ..	90·88	89·59	89·41	93·34	93·40	93·83	92·08	92·06	92·87	93·90

Results in Total Operations.

It will be seen that the total number of persons operated on were 704,984, and of these 661,994, or 93·90 per cent., were successful. In 1879-80 the percentage was 92·87. There were 2,817 persons operated on more than once; the "unsuccessful" numbered 25,522, and the "unknown" cases were 20,285.

Primary Vaccinations, Revaccinations, and Total Operations by Districts and Circles.

129. The details of the total number of persons operated on for the last two years by Districts and Circles of Vaccination, together with the percentages of increase and decrease, are shown on the next page :—

Districts and Circles.	Persons Primarily Vaccinated.			Persons Revaccinated.				Total Number of Persons operated on.			
	1879-80.	1880-81.	Increase.	1879-80.	1880-81.	Increase.	Decrease.	1879-80.	1880-81.	Increase.	Decrease.
Northern Deccan Registration District.	102,909	111,226	8,317 / 8·10	5,391	4,189	..	1,202 / 22·30	108,300	115,415	7,115 / 6·57	..
Southern Deccan Registration District.	92,581	107,767	15,186 / 16·40	2,087	1,976	..	111 / 5·32	94,668	109,743	15,075 / 15·92	..
Konkan Registration District ..	71,571	72,795	1,224 / 1·71	5,486	4,205	..	1,281 / 23·35	77,057	77,000	..	57 / 0·07
Presidency Circle	12,108	14,784	2,676 / 22·10	2,631	1,342	..	1,289 / 49·00	14,739	16,126	1,387 / 9·41	..
Eastern Gujarát Registration District.	89,849	94,854	5,005 / 5·57	2,011	1,718	..	293 / 14·57	91,860	96,572	4,712 / 5·13	..
Western Gujarát Circle	65,629	76,023	10,394 / 15·84	4,146	3,229	..	917 / 22·12	69,775	79,252	9,477 / 13·58	..
Sind Registration District ..	80,414	85,222	4,808 / 5·98	87,971	39,880	1,909 / 5·03	..	118,385	125,102	6,717 / 5·67	..
Baroda	51,242	55,917	4,675 / 9·12	172	230	58 / 33·72	..	51,414	56,147	4,733 / 9·21	..
Cutch	15,474	17,875	2,401 / 15·52	1,257	214	..	1,043 / 82·98	16,731	18,089	1,358 / 8·12	..
Aden, Muscat, Bassadore and Zanzibar.	1,040	1,828	788 / 75·77	22	53	31 / 140·91	..	1,062	1,881	819 / 77·12	..
British Army	635	659	24 / 3·78	440	2,606	2,166 / 88·13	..	1,075	3,265	2,190 / 203·72	..
Native do.	3,049	3,555	506 / 16·60	1,508	2,837	1,329 / 492·27	..	4,557	6,392	1,835 / 40·27	..
Total ..	586,501	642,505	56,004 / 9·55	63,122	62,479	5,493 / 8·70	6,136 / 9·72	649,623	704,984	55,418 / 8·53	57 / 0·01

Primary Vaccinations. Increase and Decrease by Districts and Circles.

130. In primary vaccinations an increase of 56,004, or 9·55 per cent., is to be observed as having taken place in all the Districts and Circles, which are in the following order:—Aden, the Presidency Circle, Native Army, Southern Deccan, Western Gujarát, Cutch, Baroda, Northern Deccan, Sind, Eastern Gujarát, British Army, and Konkan, where the rate is only 1·71 per 100.

Revaccinations. Increase and Decrease by Districts and Circles.

131. In revaccinations the increase is distributed over Sind, Baroda, Aden and British and Native Troops; but the decrease (6,136) in the other Districts is more than the increase, so that the net decrease is only 643, the increase being 5,493. The rates of increase for British Troops and Aden are very high, being 492·27 and 140·91 per cent. respectively. Next in order are the Native Army, Baroda and Sind, where the rate is 5·03 per 100. The decrease in other Districts is 9·72, or 1·02 per cent., more than the rate of increase. These Districts stand in the following sequence:—The Cutch and the Presideney Circle, Konkan, Northern Deccan, Western Gujarát, Eastern Gujarát, and Southern Deccan, which gives the rate as 5·32 per cent.

Total Operations. Increase and Decrease by Districts and Circles.

132. In the total operations an insignificant decrease of 57 is to be observed only in Konkan, which has the lowest rate of 0·07 per cent., whilst an increase of 55,418 is distributed over all the other Districts in the following sequence:—British Army, Aden, Native Army, Southern Deccan, Western Gujarát, Presidency Circle, Baroda, Cutch Circle, Northern Deccan, Sind and Eastern Gujarát, where it is only 5·13 per cent. The net increase is 55,361 or 8·52 per cent.

Districts and Circles.	Years.	Persons Primarily Vaccinated.								Total Number of Persons operated on— P.—Primary Vaccinations. R.—Revaccinations.		
		Caste.					Age. N.—Number. S.—Successful.			Sex.		Total.
		Christians.	Hindus.	Musalmans.	Pársis.	Other Castes.	Under 1 year.	Between 1 and 6 years.	All other Ages.	Males.	Females.	
Northern Deccan Registration District.	1879-80	340	87,459	5,663	60	9,397	N. 56,804 S. 55,492	39,960 38,553	6,145 5,255	P. 52,104 R. 3,802	50,805 1,589	102,909 5,391
										55,906	52,394	108,300
	1880-81	397	97,669	5,501	80	7,579	N. 70,205 S. 69,108	39,276 38,434	1,745 1,614	P. 56,300 R. 3,316	54,926 873	111,226 4,189
										59,616	55,799	115,415
Southern Deccan Registration District.	1879-80	264	80,875	6,019	13	5,410	N. 48,739 S. 46,926	41,370 39,367	2,472 2,180	P. 47,661 R. 1,839	44,920 248	92,581 2,087
										49,500	45,168	94,668
	1880-81	188	93,206	7,412	7	6,954	N. 61,695 S. 59,660	42,507 40,948	3,565 3,301	P. 55,393 R. 1,757	52,374 219	107,767 1,976
										57,150	52,593	109,743
Konkan Registration District.	1879-80	1,893	63,548	2,776	67	3,287	N. 30,311 S. 29,453	35,722 34,460	5,538 5,084	P. 37,008 R. 3,385	34,563 2,101	71,571 5,486
										40,393	36,664	77,057
	1880-81	1,726	64,414	3,058	90	3,507	N. 36,310 S. 35,521	32,322 31,331	4,163 3,907	P. 37,420 R. 2,460	35,375 1,745	72,795 4,205
										39,880	37,120	77,000
Presidency Circle.	1879-80	886	7,261	1,775	989	1,197	N. 8,581 S. 7,825	3,069 2,722	458 343	P. 6,039 R. 2,325	6,069 306	12,108 2,631
										8,364	6,375	14,739
	1880-81	1,146	8,378	2,760	1,208	1,292	N. 11,304 S. 10,416	3,163 2,861	317 256	P. 7,530 R. 1,236	7,254 106	14,784 1,342
										8,766	7,360	16,126
Eastern Gujarát Registration District.	1879-80	66	77,055	7,605	330	4,793	N. 56,674 S. 55,049	30,955 29,798	2,220 2,056	P. 47,246 R. 1,669	42,603 342	89,849 2,011
										48,915	42,945	91,860
	1880-81	69	81,603	7,450	333	5,399	N. 63,061 S. 61,067	29,198 27,997	2,595 2,486	P. 49,496 R. 1,436	45,358 282	94,854 1,718
										50,932	45,640	96,572
Western Gujarát Circle.	1879-80	19	54,881	7,862	9	2,858	N. 31,177 S. 28,982	33,342 29,791	1,110 1,086	P. 33,943 R. 2,298	31,686 1,848	65,629 4,146
										36,241	33,534	69,775
	1880-81	3	63,683	8,917	31	3,389	N. 48,119 S. 45,057	24,855 22,350	3,049 2,442	P. 39,258 R. 1,869	36,765 1,360	76,023 3,229
										41,127	38,125	79,252
Sind Registration District.	1879-80	155	12,917	61,522	26	5,794	N. 44,030 S. 42,337	32,486 30,980	3,898 3,472	P. 44,278 R. 18,205	36,136 19,766	80,414 37,971
										62,483	55,902	118,385
	1880-81	161	14,594	63,375	68	7,024	N. 51,903 S. 50,044	29,601 28,301	3,718 3,393	P. 45,646 R. 18,782	39,576 21,098	85,222 39,880
										64,428	60,674	125,102
Baroda	1879-80	3	44,945	3,748	65	2,481	N. 37,465 S. 36,140	13,380 12,703	397 342	P. 27,175 R. 97	24,067 75	51,242 172
										27,272	24,142	51,414
	1880-81	13	48,755	3,908	73	3,168	N. 41,425 S. 39,955	13,941 13,283	551 508	P. 29,238 R. 141	26,679 89	55,917 230
										29,379	26,768	56,147

Results.				Excess of Operations over Persons.	Ratio per 100.														
					Persons Primarily Vaccinated.								Total Number of Persons operated on.			Results.				Excess of Operations over Persons.
					Caste.					Age.			Sex.							
Successful.	Unsuccessful.	Unknown.	Total.		Christians.	Hindus.	Musalmans.	Pársis.	Other Castes.	Under 1 year.	Between 1 and 6 years.	All other Ages.	Males.	Females.	Total.	Successful.	Unsuccessful.	Unknown.	Total.	
99,300	1,673	2,210	103,183	274	0·33	84·99	5·49	0·06	9·13	55·20	38·83	5·97	50·63	49·37	100	96·49	1·36	2·15	100·27	0·27
3,393	1,341	659	5,393	2						53·92	37·46	5·11	70·52	29·48	100	62·94	24·84	12·22	100·04	0·04
102,693	3,014	2,869	108,576	276	..	..	..	..	..	..	..	..	51·62	48·38	100	94·82	2·53	2·65	100·25	0·25
109,156	1,086	1,066	111,308	82	0·36	87·81	4·95	0·07	6·81	63·12	35·31	1·57	50·62	49·38	100	98·14	0·90	0·96	100·08	0·08
3,018	860	311	4,189	..						62·13	34·56	1·45	79·16	20·84	100	72·05	20·53	7·42	100·	..
112,174	1,946	1,377	115,497	82	..	..	..	..	..	..	..	..	51·65	48·35	100	97·19	1·62	1·19	100·07	0·07
88,473	1,792	2,506	92,771	190	0·29	87·35	6·50	0·02	5·84	52·64	44·69	2·67	51·48	48·52	100	95·56	1·73	2·71	100·21	0·21
1,689	258	141	2,088	1						50·69	42·52	2·35	88·12	11·88	100	80·93	12·31	6·76	100·05	0·05
90,162	2,050	2,647	91,859	191	..	..	..	..	..	..	..	..	52·29	47·71	100	95·24	1·96	2·80	100·20	0·20
103,909	1,607	2,468	107,984	217	0·17	86·49	6·88	0·01	6·45	57·26	39·44	3·30	51·40	48·60	100	96·42	1·29	2·29	100·11	0·11
1,640	211	125	1,976	..						55·36	38·50	3·06	89·92	11·08	100	83·00	10·68	6·32	100·	..
105,549	1,818	2,593	109,960	217	..	..	..	..	..	..	..	..	52·08	47·92	100	96·18	1·46	2·36	100·20	0·20
68,997	1,961	872	71,830	259	2·65	88·79	3·88	0·09	4·59	42·35	49·91	7·74	51·71	48·29	100	96·40	2·37	1·23	100·36	0·36
3,785	1,494	207	5,486	..						41·15	48·15	7·10	61·70	38·30	100	69·00	27·23	3·77	100·	..
72,782	3,455	1,079	77,316	259	..	..	..	..	..	..	..	..	52·42	47·58	100	94·45	4·15	1·40	100·34	0·34
70,759	1,405	867	73,031	236	2·37	88·49	4·20	0·12	4·82	49·88	44·40	5·72	51·40	48·60	100	97·21	1·60	1·19	100·32	0·32
3,049	920	236	4,205	..						48·80	43·04	5·37	58·50	41·50	100	72·51	21·68	5·81	100·	..
73,808	2,325	1,103	77,236	236	..	..	..	..	..	..	..	..	51·79	48·21	100	95·85	2·72	1·43	100·31	0·31
10,890	610	1,010	12,510	402	7·32	59·97	14·66	8·17	9·88	70·87	25·35	3·78	49·88	50·12	100	89·94	1·72	8·34	103·32	3·32
1,611	760	262	2,633	2						64·68	22·48	2·83	88·37	11·63	100	61·23	28·81	9·96	100·08	0·08
12,501	1,370	1,272	15,143	404	..	..	..	..	..	..	..	..	56·75	43·25	100	84·82	6·55	8·63	102·74	2·74
13,533	897	1,029	15,459	675	7·75	56·67	18·67	8·17	8·74	76·46	21·40	2·14	50·93	49·07	100	91·54	1·50	6·96	104·57	4·57
975	315	52	1,342	..						70·46	19·35	1·73	92·10	7·90	100	72·65	23·47	3·88	100·	..
14,508	1,212	1,081	16,801	675	..	..	..	..	..	..	..	..	54·36	45·64	100	89·97	8·33	6·70	104·19	4·19
86,903	2,152	1,165	90,220	371	0·07	85·76	8·46	0·37	5·34	63·08	34·45	2·47	52·58	47·42	100	96·72	1·98	1·30	100·41	0·41
1,125	667	219	2,011	..						61·27	33·16	2·29	82·99	17·01	100	55·94	33·17	10·89	100·	..
88,028	2,819	1,384	92,231	371	..	..	..	..	..	..	..	..	53·25	46·75	100	95·82	2·66	1·51	100·40	0·40
91,550	2,354	1,409	95,313	459	0·07	86·03	7·86	0·35	5·69	66·48	30·78	2·74	52·18	47·82	100	96·52	2·00	1·48	100·48	0·48
818	503	398	1,719	1						64·38	29·52	2·62	83·59	16·41	100	47·61	29·22	23·17	100·06	0·06
92,368	2,857	1,807	97,032	460	..	..	..	..	..	..	..	..	52·74	47·26	100	95·65	2·48	1·87	100·48	0·48
59,809	3,085	2,912	65,806	177	0·03	83·62	11·98	0·02	4·35	47·51	50·80	1·69	51·72	48·28	100	91·13	4·43	4·44	100·27	0·27
2,534	1,045	568	4,147	1						44·08	45·39	1·66	55·43	44·57	100	61·12	25·18	13·70	100·02	0·02
62,343	4,130	3,480	69,953	178	..	..	..	..	..	..	..	..	51·94	48·06	100	89·35	5·66	4·99	100·26	0·26
69,849	3,375	2,916	76,140	117	0·00	83·77	11·73	0·04	4·46	63·29	32·70	4·01	51·64	48·36	100	91·88	4·28	3·84	100·15	0·15
2,043	813	373	3,229	..						59·27	29·40	3·21	57·88	42·12	100	63·28	25·17	11·55	100·	..
71,892	4,188	3,289	79,369	117	..	..	..	..	..	..	..	..	51·89	48·11	100	90·71	5·14	4·15	100·15	0·15
76,789	1,260	2,695	80,744	330	0·19	16·06	76·51	0·03	7·21	54·75	40·40	4·85	55·06	44·94	100	95·49	1·16	3·35	100·41	0·41
29,356	4,882	3,939	38,177	206						52·65	38·52	4·32	47·94	52·06	100	77·31	12·86	9·83	100·42	0·42
106,145	6,142	6,634	118,921	536	..	..	..	..	..	..	..	..	52·78	47·22	100	89·66	4·74	5·60	100·45	0·45
81,738	1,383	2,540	85,661	439	0·19	17·13	74·36	0·08	8·24	60·90	34·74	4·36	53·56	46·44	100	95·91	1·11	2·98	100·50	0·50
30,295	5,114	4,583	39,992	112						58 72	33·21	3·98	47 10	52·90	100	75·97	12·54	11·49	100·28	0·28
112,033	6,497	7,123	125,653	551	..	..	..	..	..	..	..	..	51·50	48·50	100	89·55	4·75	5·70	100·44	0·44
49,185	1,494	836	51,515	273	0·01	87·71	7·31	0·13	4·84	73·11	26·11	0·78	53·03	46·97	100	95·99	2·38	1·63	100·53	0·53
130	29	13	172	..						70·53	24·79	0·67	56·40	43·60	100	75·58	16·80	7·56	100·	..
49,315	1,523	849	51,687	273	..	..	..	..	..	..	..	..	53·04	46·96	100	95·92	2·43	1·65	100·53	0·53
53,746	1,505	939	56,190	273	0·02	87·19	6·99	0·13	5·67	74·08	24·93	0·99	52·29	47·71	100	96·12	2·20	1·68	100·49	0·49
162	51	18	231	1						71·45	23·76	0·91	61·30	38·70	100	70·48	21·74	7·83	100·43	0·43
53,908	1,556	957	56,421	274	..	..	..	..	..	..	..	..	52·33	47·67	100	96·01	2·28	1·71	100·49	0·49

Districts and Circles.	Years.	Persons Primarily Vaccinated.								Total Number of Persons Operated on. P. = Primary Vaccinations. R. = Revaccinations.		
		Caste.					Age. N. = Number. S. = Successful.			Sex.		Total.
		Christians.	Hindus.	Musálmans.	Pársis.	Other Castes.	Under 1 year.	Between 1 and 6 years.	All other Ages.	Males.	Females.	
Cutch	1879-80	..	11,213	4,259	2	..	N. 4,842 S. 4,287	10,634 8,702	608 498	P. 8,271 R. 637	7,203 620	15,474 1,257
										8,908	7,823	16,731
	1880-81	..	13,402	4,473	..	..	N. 9,332 S. 9,106	7,729 7,487	814 766	P. 9,298 R. 113	8,577 101	17,875 214
										9,411	8,678	18,089
Aden, Zanzibar, Bassadore and Muscat.	1879-80	18	74	374	5	69	N. 242 S. 192	561 494	237 218	P. 578 R. 19	462 3	1,040 22
										597	465	1,062
	1880-81	25	31	1,628	6	138	N. 122 S. 105	620 506	1,086 709	P. 1,086 R. 37	742 16	1,828 53
										1,123	758	1,881
British Army ..	1879-80	303	252	54	6	20	N. 416 S. 394	156 151	63 59	P. 350 R. 390	285 50	635 440
										740	335	1,075
	1880-81	318	290	38	2	11	N. 456 S. 410	128 128	75 72	P. 365 R. 2,078	294 528	659 2,606
										2,443	822	3,265
Native Army ..	1879-80	121	1,659	818	23	428	N. 2,345 S. 2,112	695 378	9 9	P. 1,621 R. 1,417	1,428 91	3,049 1,508
										3,038	1,519	4,557
	1880-81	90	1,934	1,154	18	359	N. 2,686 S. 2,370	648 474	221 140	P. 1,959 R. 2,649	1,596 188	3,555 2,837
										4,608	1,784	6,392
Total for the Bombay Presidency.	1879-80	4,068	442,139	102,965	1,595	35,734	N. 321,626 S. 309,139	241,720 228,099	23,155 20,602	P 306,274 R. 36,083	280,227 27,039	586,501 63,122
										342,357	307,266	649,623
	1880-81	4,137	487,958	109,674	1,916	38,820	N. 396,618 S. 382,309	223,988 214,100	21,899 19,604	P. 332,989 R. 35,874	309,516 26,605	642,505 62,479
										368,863	336,121	704,984

Particulars of vaccine operations by caste, age, sex and result, with their percentages according to Districts and Circles.

133. The above table specifies by Districts and Circles, caste, age, sex and result in primary vaccinations, and sex and result in revaccinations and total operations, as contrasted with those in 1879-80, together with the percentages of those particulars. It will be observed that there is an improvement in the work over that of last year both as regards numbers and percentages in each detail.

Caste.

134. There were this year primarily vaccinated 4,137 Christians, 487,958 Hindus, 109,674 Musálmans, 1,916 Pársis, and 38,820 persons of Other Castes; and for all the numbers are higher than last year, the respective percentages being 0·64, 75·95, 17·07, 0·30 and 6·04; the percentages for Christians and Other Castes are, however, lower by only 0·05 in each, and for Musálmans by 0·49. As regards each District and Circle, Christians have a lower percentage by 0·03 in the Western Gujarát; 0·12 in the Southern Deccan; by 0·28 in the Konkan; by 0·36 in Aden, Zanzibar, Bassadore and Muscat, and by 1·94 in the Native Army. The percentages for Hindus are lower in half the Districts and Circles, viz., the Southern Deccan, Konkan, Presidency Circle, Baroda, Aden and Native Army; and for Musálmans they are lower in the Northern Deccan by 0·54; in the Eastern Gujarát by 0·60; in the Western Gujarát by 0·25; in Sind by 2·15; in Baroda by 0·32; in Cutch by 2·51; and in the British Army by 2·73. Pársis have a lower percentage in the Eastern

Results.				Excess of Operations over Persons.	Ratio per 100.															Excess of Operations over Persons.
					Persons Primarily Vaccinated.									Total Number of Persons Operated on.			Results.				
					Caste.					Age.				Sex.							
Successful.	Unsuccessful.	Unknown.	Total.		Christians	Hindus.	Muslimans.	Párás.	Other Castes.	Under 1 year.	Between 1 and 6 years.	All other Ages.	Males.	Females.	Total.	Successful.	Unsuccessful.	Unknown.	Total.	
13,487	708	1,279	15,474	..	..	72·46	27·53	0·01	..	31·29	64·78	3·93	53·45	46·55	100	87·16	4·57	8·27	100	..
707	372	174	1,257	..						27·70	56·24	3·22	50·68	49·32	100	56·25	29·59	14·16	100	..
14,194	1,080	1,457	16,731	..	..	..	..	..	..	..	..	..	53·24	46·76	100	84·84	6·45	8·71	100	..
17,359	400	230	17,989	114	...	74·98	25·02	..	..	52·21	43·24	4·55	52·02	47·98	100	97·11	1·60	1·29	100·64	0·64
164	40	11	215	1						50·94	41·89	4·28	52·80	47·20	100	76·64	18·22	5·14	100·47	0·47
17,523	440	241	18,204	115	..	..	..	..	..	..	..	..	52·36	47·64	100	96·87	1·80	1·33	100·64	0·64
904	85	51	1,040	..	1·73	7·12	84·04	0·48	6·63	23·27	53·04	22·79	55·58	44·42	100	86·92	8·17	4·91	100	..
22	..	..	22	..						18·40	47·50	20·96	86·36	13·64	100	100	..	..	100	..
926	85	51	1,062	..	..	..	..	..	..	..	..	..	56·21	43·79	100	87·20	8·00	4·80	100	..
1,320	340	203	1,863	35	1·37	1·69	89·06	0·33	7·55	6·67	33·92	59·41	59·41	40·59	100	72·21	16·68	11·11	101·91	1·91
32	15	7	54	1						5·74	27·68	38·79	69·81	30·19	100	60·37	26·42	13·21	101·89	1·89
1,352	355	210	1,917	36	..	..	..	..	..	..	..	..	59·70	40·30	100	71·88	16·96	11·16	101·91	1·91
604	29	8	641	6	47·72	39·69	8·50	0·94	3·15	65·51	24·57	9·92	55·12	44·88	100	95·12	3·62	1·26	100·94	0·94
208	227	11	446	6						62·05	23·78	9·29	88·64	11·36	100	47·27	50·23	2·50	101·36	1·36
812	256	19	1,087	12	..	..	..	..	..	..	..	..	68·84	31·16	100	75·53	22·70	1·77	101·12	1·12
610	38	18	666	7	48·25	44·01	5·77	0·30	1·67	69·20	19·42	11·38	55·39	44·61	100	92·57	4·70	2·73	101·06	1·06
1,337	1,081	196	2,614	8						62·22	19·42	10·93	79·74	20·26	100	51·31	41·17	7·52	100·31	0·31
1,947	1,119	214	3,280	15	..	..	..	..	..	..	..	..	74·82	25·18	100	59·63	33·81	6·56	100·46	0·46
2,499	329	254	3,082	33	3·97	54·41	26·83	0·75	14·04	76·91	22·79	0·30	53·16	46·84	100	81·96	9·71	8·33	101·08	1·08
875	641	9	1,525	17						69·27	12·40	0·29	93·97	6·03	100	58·02	41·38	0·60	101·13	1·13
3,374	970	263	4,607	50	..	..	..	..	..	..	..	..	66·67	33·33	100	74·04	20·19	5·77	101·10	1·10
2,984	331	264	3,579	24	2·53	54·40	32·46	0·51	10·10	75·56	18·23	6·21	55·11	44·89	100	83·94	8·64	7·42	100·68	0·68
1,948	878	26	2,852	15						66·67	13·33	3·94	93·37	6·63	100	68·66	30·42	0·92	100·53	0·53
4,932	1,209	290	6,431	39	..	..	..	..	..	..	..	.	72·09	27·91	100	77·16	18·30	4·54	100·61	0·61
557,840	15,178	15,798	588,816	2,315	0·69	75·39	17·56	0·27	6·09	54·84	41·21	3·95	52·22	47·78	100	95·11	2·19	2·70	100·39	0·39
45,435	11,716	6,206	63,357	235						52·71	38·89	8·51	57·16	42·84	100	71·98	18·19	9·83	100·37	0·37
603,275	26,894	22,004	652,173	2,550	..	..	..	..	..	..	..	..	52·70	47·30	100	92·86	3·75	3·39	100·39	0·39
616,513	14,721	13,949	645,183	2,678	0·64	75·95	17·07	0·30	6·04	61·73	34·86	3·41	51·83	48·17	100	95·95	1·88	2·17	100·42	0·42
45,451	10,801	6,336	62,618	139						59·58	33·32	3·05	57·42	42·58	100	72·79	17·07	10·14	100·22	0·23
661,994	25,522	20,285	707,801	2,817	..	..	..	..	..	..	..	..	52·32	47·68	100	93·90	3·22	2·88	100·40	0·40

Gujarát by 0·02; in the British Army by 0·64; in the Native Army by 0·24; in Aden, Zanzibar, Bassadore and Muscat by 0·15; and in the Southern Deccan and Cutch by 0·01 each. The percentages for Other Castes are lower in four Districts only as last year.

Age.

135. The age details are compiled for three stages, viz., those under 1 year, those between 1 and 6 years, and those above 6 years. The numbers under each stage primarily vaccinated were respectively 396,618, 223,988 and 21,899 against 321,626, 241,720 and 23,155 during the preceding year. The number of infants successfully vaccinated was 382,809, of children between 1 and 6 years 214,100, and of persons of other ages 19,604. Thus out of every 100 persons primarily vaccinated, there were 61·73 infants, of whom 59·58 were successfully vaccinated against 52·71 in 1879-80, 52·11 in 1878-79, 47·55 in 1877-78, and 42·18 in 1876-77. Thus every year is characterised by a progress in the protection afforded to infants.

Infants successfully vaccinated as compared with those available for vaccination by Districts and Circles at the rate of 31 per *mille* of Population.

136. In para. 91 of the Report for 1878-79 a rate of 31 per thousand of population is laid down as that of infants available for vaccination. At this rate, and on the total population of 25,065,744, there were successfully vaccinated 49·27 per cent. against 39·78 in 1879-80, and 37·69 in 1878-79. The subjoined table shows the number of infants protected out of those available for vaccination (at the rate of 31 per mille of population)

by Districts and Circles, as likewise the protection of children between one and six years old :—

Districts and Circles.	Population.	Children under 1 Year available for Vaccination at 31 per 1,000.	Years.	Children under 1 Year Vaccinated Successfully.		Children between 1 and 6 Years Vaccinated Successfully.	
				Number.	Ratio per 100 on Infants.	Number.	Ratio per 100 on Total Vaccinated.
1. Native Army ...	22,561	699	1879-80	2,112	302·15	378	12·40
			1880-81	2,370	339·06	474	13·33
2. British Army ...	10,050	311	1879-80	394	126·69	151	23·78
			1880-81	410	131·83	128	19·42
3. Sind	2,322,765	72,006	1879-80	42,337	58·80	30,980	38·52
			1880-81	50,044	69·50	28,301	33·21
4. Baroda	2,000,225	62,007	1879-80	36,140	58·28	12,703	24·79
			1880-81	39,955	64·44	13,283	23·76
5. Cutch	487,305	15,106	1879-80	4,287	28·38	8,702	56·24
			1880-81	9,106	60·28	7,487	41·89
6. Presidency Circle ...	644,405	19,977	1879-80	7,825	39·17	2,722	22·48
			1880-81	10,416	52·14	2,861	19·35
7. Northern Deccan ...	4,296,187	133,182	1879-80	55,492	41·67	38,553	37·46
			1880-81	69,108	51·89	38,434	34·56
8. Western Gujarát ...	2,815,215	87,272	1879-80	28,932	33·15	29,791	45·39
			1880-81	45,057	51·63	22,350	29·40
9. Eastern Gujarát ...	3,977,490	123,302	1879-80	55,049	44·65	29,798	33·16
			1880-81	61,067	49·53	27,997	29·52
10. Konkan	2,915,587	90,383	1879-80	29,453	32·59	34,460	48·15
			1880-81	35,521	39·30	31,331	43·04
11. Southern Deccan ...	5,554,665	172,195	1879-80	46,926	27·25	39,367	42·52
			1880-81	59,660	34·65	40,948	38·00
12. Aden, Zanzibar, Bassadore, and Muscat.	*19,289	598	1879-80	192	32·11	494	47·50
			1880-81	105	17·56	506	27·68
Total ...	25,067,744	777,038	1879-80	309,139	39·78	228,099	38·89
			1880-81	382,809	49·27	214,100	33·32

* Of Aden only.

The Southern Deccan stands only one place higher than in 1879-80 in this respect, though there is a rise in the percentage of infants protected, to the extent of 7·40 per cent., whilst there is a fall of 4·52 per cent. in the ratio of children between one and six years old successfully vaccinated. Sind has a percentage of 69·50 infants protected instead of 58·28 last year. There is a rise in the percentages of infants protected in all the Districts and Circles, except in Aden, Zanzibar, Bassadore and Muscat, where the fall amounts to 14·55 per cent. The highest rise is observed in Cutch, to the extent of 31·90 per cent.

Sex.

137. There were 332,989 males and 309,516 females primarily vaccinated. The revaccinated were respectively 35,874 and 26,605, and the totals of persons operated on were 368,863 males and 336,121 females. In primary vaccinations the sex percentages are respectively 51·83 and 48·17 against 52·22 and 47·78 last year; in revaccinations they are 57·42 and 42·58 against 57·16 and 42·84; and in total operations they are 52·32 and 47·68 against 52·70 and 47·30. These ratios show that this year more females were primarily vaccinated.

Results.

138. There is an improvement, too, in the number of "successful," "unsuccessful" and "unknown" cases. In primary vaccinations there were 616,513, or 95·95 per cent., successful; 14,721, or 1·88 per cent., unsuccessful; and 13,949, or 2·17 per cent., unknown. Secondary operations amounted to 2,678 or 0·42 per cent. The percentages for 1878-79 were respectively 95·11, 2·19, 2·70 and 0·39.

There is a little rise in successful revaccinations, but it amounts to only 0·81 per cent. The three kinds of result afforded the respective percentages of 72·79, 17·07 and 10·14 against 71·98, 18·19 and 9·83 in the previous year. In 139 cases, or 0·22 per cent., the revaccinations were repeated; last year they were repeated in 235 instances.

Of total operations 661,994, or 93·90 per cent., were successful; 25,522, or 3·22 per cent., were unsuccessful; and 20,285, or 2·88, were unknown. Last year the percentages were respectively 92·86, 3·75 and 3·39. The excess of operations over persons was 2,817 or 0·40 per 100 against 2,550 or 0·39 per cent. in 1879-80. In calculating the percentages of unsuccessful cases these numbers have been excluded.

Percentages of success reviewed by Districts and Circles.

139. The following table shows by Districts and Circles the percentages of success in primary vaccinations and revaccinations, contrasted with those for the previous year :—

No.	Districts and Circles.	Percentages of Success in Primary Vaccinations.		Percentages of Success in Revaccinations.	
		1879-80.	1880-81.	1879-80.	1880-81.
1	Northern Deccan Registration District	96·68	98·31	62·81	71·89
2	Konkan Registration District ...	96·61	97·44	69·75	72·91
3	Cutch Circle	87·16	97·11	56·25	76·64
4	Eastern Gujarát Registration District.	96·97	96·80	56·03	47·67
5	Southern Deccan Registration District	95·73	96·54	79·40	81·01
6	Baroda Circle	96·06	96·12	76·51	70·31
7	Sind Registration District ...	95·75	96·12	77·00	75·79
8	British Army	95·12	92·56	47·27	51·30
9	Dispensaries	91·04	92·42	78·77	77·21
10	Western Gujarát Circle... ...	91·12	91·82	61·34	64·05
11	Presidency Circle	89·94	91·54	61·23	72·65
12	Native Army	81·96	83·94	58·02	68·66
13	Aden	86·99	63 84	·100	59·18
	Average for the whole Presidency...	95·11	95·95	71·98	72·79

In the "successful" primary vaccinations the percentages are lower than last year in the Eastern Gujarát, Aden and British Army, owing to there being more "unsuccessful" and "unknown" cases than last year.

Rate per mille of population protected by Primary Vaccinations by Districts and Circles.

140. The number of persons primarily vaccinated successfully out of every 1,000 by Districts and Circles, as compared with 1879-80, is shown in the table below :—

No.	Districts and Circles.	Population of Registration Districts and Circles according to the Census of 1872.	Total Number of Persons Primarily Vaccinated Successfully.		Number of Primary Successful Vaccinations per 1,000 of Population.	
			1879-80.	1880-81.	1879-80.	1880-81.
1	Native Army	22,561	2,499	2,984	110·77	132·26
2	Aden	19,289	904	1,320	46·87	68·43
3	British Army	10,050	604	610	60·10	60·69
4	Cutch	487,305	13,487	17,359	27·67	35·62
5	Sind Registration District ...	2,322,765	76,789	81,738	33·06	35·19
6	Baroda	2,000,225	49,185	53,746	24·59	26·87
7	Northern Deccan Registration District	4,296,187	99,300	109,156	23·11	25·41
8	Western Gujarát Circle ...	2,815,215	59,809	69,849	21·24	24·81
9	Konkan Registration District ...	2,915,587	68,997	70,759	23·66	24·27
10	Eastern Gujarát Registration District	3,977,490	86,903	91,550	21·85	23·02
11	Presidency Circle	644,405	10,890	13,533	16·90	21·00
12	Southern Deccan Registration District	5,554,665	88,473	103,909	15·93	18·71
	Total ...	25,065,744	557,840	616,513	22·26	24·60
	In British Territory	16,293,693	374,248	404,041	22·97	24·80
	In Native States	8,772,051	183,592	212,472	20·93	24·22

The rate of protection is higher than last year in all the Districts and Circles. It is lowest in the Presidency Circle and the Southern Deccan. In British and Native Territory it is respectively 24·80 and 24·22 against 22·97 and 20·93 per mille of population in the previous year. On the whole, 24·60 persons of all ages per every 1,000 of population, against 22·26 last year, were primarily vaccinated successfully.

Vaccinations by Establishments.

141. The progress of vaccination by different Establishments will be seen from the subjoined table :—

Establishment.	Persons Primarily Vaccinated.			Persons Revaccinated.				Total Number of Persons Operated on.			
	1879-80.	1880-81.	Increase	1879-80.	1880-81.	Increase.	Decrease	1879-80.	1880-81.	Increase	Decrease
2 Government Vaccinators	3,374	4,130	756 22·41	22	13	..	9 40·91	3,396	4,143	747 22·00	..
39 Municipal	48,318	49,357	1,539 3·19	10,420	9,248	..	1,172 11·25	58,738	59,105	367 0·62	..
1 Cantonment	939	967	28 2·98	473	311	..	162 34·25	1,412	1,278	..	134 9·49
241 Local Fund	322,871	347,194	24,323 7·53	40,971	40,583	..	388 0·95	363,842	387,777	23,935 6·58	..
144 Native States	188,196	213,411	25,215 13·40	6,645	4,402	..	2,243 33·75	194,841	217,813	22,972 11·79	..
161 Dispensaries	19,119	22,732	3,613 18·90	2,643	2,479	..	164 6·21	21,762	25,211	3,449 15·39	..
British Army	635	659	24 3·78	440	2,606	2,166 492·27	..	1,075	3,265	2,190 203·72	..
Native Army	3,049	3,555	506 16·60	1,508	2,837	1,329 88·13	..	4,557	6,392	1,835 40·26	..
Total ..	586,501	642,505	56,004 9·55	63,122	62,479	3,495 5·54	4,138 6·56	649,623	704,984	55,495 8·54	134 0·02

In primary vaccinations an increase is observed under all Establishments amounting to 56,004 or 9·55 per cent., the maximum rate of increase being 22·41 per cent. under Government Establishment. In revaccinations there is an increase of 3,495, or 5·54 per cent., under British and Native Army, but there is a decrease of 4,138 in others, or 6·56 per cent. Taking the two kinds of operations together, there is an increase of 55,495 or 8·54 per cent. and a decrease of 134 or 0·02 per cent. only in the work of the Cantonment Vaccinator.

Results in Vaccine Operations by Establishments.

142. The results in primary vaccinations, revaccinations, and total operations, as analysed by Establishments, are as under :—

Establishment.	Years.	Results in Primary Operations.					Results in Revaccinations.					Results in Total Operations.				
		Successful.	Unsuccessful.	Unknown.	Total.	Excess of Operations.	Successful.	Unsuccessful.	Unknown.	Total.	Excess of Operations.	Successful.	Unsuccessful.	Unknown.	Total.	Excess of Operations.
2 Government Vaccinators.	1879-80	3,220	79	75	3,374	..	19	3	..	22	..	3,239	82	75	3,396	..
	1880-81	3,980	66	84	4,130	..	8	3	2	13	..	3,988	69	86	4,143	..
39 Municipal Vaccinators ..	1879-80	45,069	1,439	2,331	48,839	521	7,077	2,498	898	10,473	53	52,146	3,937	3,229	59,312	574
	1880-81	47,361	1,580	1,712	50,653	796	6,808	1,809	674	9,291	43	54,169	3,389	2,386	59,944	839
1 Cantonment Vaccinator.	1879-80	939	..	..	939	..	278	194	1	473	..	1,217	194	1	1,412	..
	1880-81	967	..	..	967	..	233	78	..	311	..	1,200	78	..	1,278	..
241 Local Fund Vaccinators.	1879-80	312,124	5,445	6,217	323,786	915	30,998	5,919	4,212	41,129	158	343,122	11,364	10,429	364,915	1,073
	1880-81	337,392	4,911	5,737	348,040	846	30,370	5,556	4,718	40,644	61	367,762	10,467	10,455	388,684	907
144 Native States Vaccinators.	1879-80	175,979	6,688	6,273	188,940	744	3,898	1,868	880	6,646	1	179,877	8,556	7,153	195,586	745
	1880-81	202,210	6,612	5,425	214,247	836	2,863	1,061	480	4,404	2	205,073	7,673	5,905	218,651	838
161 Dispensaries..	1879-80	17,406	1,169	640	19,215	96	2,082	366	195	2,643	..	19,488	1,585	835	21,853	96
	1880-81	21,099	1,183	709	22,991	169	1,914	335	240	2,489	10	22,923	1,518	949	25,390	179
British Army ..	1879-80	604	29	8	641	6	208	227	11	446	6	812	256	19	1,087	12
	1880-81	610	38	18	666	7	1,337	1,081	196	2,614	8	1,947	1,119	214	3,280	15
Native Army ..	1879-80	2,499	329	254	3,082	33	875	641	9	1,525	17	3,374	970	263	4,607	50
	1880-81	2,984	331	264	3,579	24	1,948	878	26	2,852	15	4,932	1,209	290	6,431	39
Total for the Bombay Presidency..	1879-80	557,840	15,178	15,798	588,816	2,315	45,435	11,716	6,206	63,357	235	603,275	26,694	22,004	652,173	2,550
	1880-81	616,513	14,721	13,949	645,183	2,678	45,481	10,801	6,336	62,618	189	661,994	25,522	20,285	707,801	2,817

In primary vaccinations the number of successful cases was more than last year for each Establishment, and the number of successful cases was less, although it was little more in Dispensaries and the European and Native Troops,

and in Municipalities by 141. A fall in the number of unsuccessful cases indicates an improvement in the work performed. The number of unknown cases outnumber the unsuccessful in Government, Municipal and Local Fund Establishments, and are more than last year in Government Establishment as well as Dispensaries and the Army generally.

In revaccinations the successful cases are less than last year in all Establishments, except the British and Native Army, owing to the diminished number of revaccinations; but among both the European and Native Troops they were nearly treble the number in 1879-80. The intensity of the protective power of primary vaccine operations may be judged by the unsuccessful revaccinations. The unsuccessful cases are also less, Army excepted, and the "unknown" are more in Government, Local Fund and the British and Native Army than they were in 1879-80.

Percentages of success reviewed by Establishments.

143. The percentages of successful cases in each kind of operation by Establishments are given below :—

Establishments.		Government.	Municipal.	Cantonment.	Local Funds.	Native States.	Dispensaries.	British Army.	Native Army.	For the whole Presidency.
In Primary Vaccinations.										
Percentage of success ...	1879-80 ...	95·44	93·28	100	96·67	93·51	91·04	95·12	81·96	95·11
	1880-81 ...	96·37	94·99	100	97·18	94·75	92·42	92·56	83·94	95·95
In Revaccinations.										
Percentage of success ...	1879-80 ...	86·36	67·92	58·77	75·76	58·66	78·77	47·27	58·02	71·98
	1880-81 ...	61·54	73·62	74·92	74·83	65·04	77·21	51·30	68·66	72·79

In primary vaccinations the percentages are higher than in the preceding year in all Establishments except the British Army. The highest percentage is 100 in Cantonment and the lowest is 83·94 in the Native Army. The next highest is 97·18 in Local Funds and the next lowest is 92·42 in Dispensaries. In revaccinations the lowest percentage is 51·30 in the British Army and the highest is 74·92 for Local Fund.

Work of Establishments by Districts and Circles.

144. The work of the different Establishments by Districts and Circles is as follows :—

Work of Government Vaccinators.

145. There are 2 Vaccinators for the Cantonments of Rájkot and Deesa, paid from Provincial Funds, who work under the Superintendent of Vaccination, Western Gujarát Circle. Half the cost of vaccination in Deesa is borne by the Cantonment Committee. Besides these two, there are three others under the Station Staff Surgeons for the Military Stations of Mhow, Neemuch and Nasirabad, paid from "Military Funds." Their work is included under the head of Native Army and Camp Followers. The Rájkot and Deesa Vaccinators work among a population of 95,926 souls in an area of 269 square miles. There were 4,130 persons primarily vaccinated and 13 revaccinated, against 3,374 and 22 in the previous year. The successful cases were respectively 3,980 and 8, which give the percentages of 96·37 and 61·54; so, taking the two operations together, 41·57 per thousand of population were protected against 33·77 last year. The total cost was Rs. 504. The cost of each successful case was annas 2, or 8 pies less than last year. In primary vaccinations the unsuccessful cases were 66 and of unknown 84. In revaccinations the unsuccessful were 3 and the unknown 2. No person was operated on more than once.

Work of Cantonment Vaccinators.

146. There is only 1 Vaccinator for the Cantonments of Poona and Kirkee, which have an area of 4 square miles and a population of 28,450. His work is supervised by the Deputy Sanitary Commissioner, Northern Deccan Registration District. He primarily vaccinated 967 and revaccinated 311 persons. Last year these numbers were respectively 939 and 473. In primary vaccinations all were successful, and in revaccinations 233, or 74·92 per cent., were successful. The rate of protection per mille of population was 42·18. Last year it was 42·78. The total cost was Rs. 200, annas 13 and pies 6, or annas 2 and pies 8 per each

successful case: exactly the same as last year. There were 78 unsuccessful cases, but no "unknown" among revaccinations. None were operated on more than once.

Work of Municipal Vaccinators.

147. The following table gives the progress of vaccination by Districts and Circles under Municipal Vaccinators:—

Districts and Circles.	Persons Primarily Vaccinated.				Persons Revaccinated.				Total Number of Persons Operated on.			
	1879-80.	1880-81.	Increase.	Decrease.	1879-80.	1880-81.	Increase.	Decrease.	1879-80.	1880-81.	Increase.	Decrease.
Northern Deccan Registration District	12,326	9,990	...	2,336	1,777	1,190	...	587	14,103	11,180	...	2,923
Southern Deccan Registration District	4,826	4,994	168	...	488	390	...	98	5,314	5,384	70	...
Konkan Registration District..	1,966	2,067	101	...	389	442	53	...	2,355	2,509	154	...
Presidency Circle	12,108	14,784	2,676	...	2,631	1,342	...	1,289	14,739	16,126	1,387	...
Eastern Gujarát Registration District	9,297	8,168	...	1,129	306	193	...	113	9,603	8,361	...	1,242
Sind Registration District ...	6,919	8,759	1,840	...	4,807	5,642	835	...	11,726	14,401	2,675	...
Aden	876	1,095	219	...	22	49	27	...	898	1,144	246	...
Total ...	48,318	49,857	5,004	3,465	10,420	9,248	915	2,087	58,738	59,105	4,532	4,165

In primary vaccinations a decrease of 3,465 is observed in the Northern Deccan and Eastern Gujarát, chiefly owing to less work having been done in the towns of Sholápur and Pandharpur, attributable to a larger number of operations among the famine-stricken people collected at those places in the previous year and to the abolition of a vaccinator for the town of Viramgám, Ahmedabad Zilla. For the remaining Districts there is a collective increase of 49,857. In revaccinations there is a decrease of 2,087 in four Districts and an increase of 915 in three, viz.—the Konkan, Sind and Aden. On the whole, taking the two operations together, there is a net increase of 367 only. In Sind one vaccinator was abolished for the town of Jacobabad, and as two more were also abolished, one in the Southern Deccan and one in Eastern Gujarát, there are in all 39 vaccinators instead of 42 as before, who worked amongst a population of 1,632,867 over an area of 178 square miles. They returned 49,857 primary vaccinations and 9,248 revaccinations, of which there were, respectively, 47,361 or 94·99 and 6,808 or 73·62 per cent. successful. The percentages of success attained are equal to 33·17 per mille of population against 31·94 last year. The total cost was Rs. 20,045, annas 8 and pies 5, equal to annas 5 and pies 11, the same as in the preceding year, per each successful case. The unsuccessful and unknown were, respectively, 1,580 and 1,809 and 1,712 and 674 under each kind of operation. There were 796 secondary operations, and in 43 cases the revaccinations were repeated. Each vaccinator, on an average, operated on 1,516 persons. Vaccination is carried on by the medical officers of dispensaries in such towns as have no vaccinators of their own, and where there is no dispensary there the rural vaccinator performs it. It would be well, if all towns having a population of 10,000 had special vaccinators, as the dispensary medical officers cannot devote sufficient time to the details of the work. It should at least be arranged that each town circle which compiles birth and death returns should have a vaccinator.

Necessity for Special Vaccinators in Towns having a population of 10,000.

Districts.	Persons Primarily Vaccinated.				Persons Revaccinated.				Total Number of Persons Operated on.			
	1879-80.	1880-81.	Increase.	Decrease.	1879-80.	1880-81.	Increase.	Decrease.	1879-80.	1880-81.	Increase.	Decrease.
Northern Deccan Registration District	83,874	94,137	10,263	..	2,969	2,541	.	428	86,843	96,678	9,835	..
Southern Deccan Registration District	57,685	66,407	8,722	..	1,011	1,089	78	..	58,696	67,496	8,800	..
Konkan Registration District	59,368	59,048	..	320	4,168	3,388	..	780	63,536	62,436	..	1,100
Eastern Gujarát Registration District	53,239	55,287	2,048	..	1,543	1,309	..	234	54,782	56,596	1,814	..
Sind Registration District	68,705	72,315	3,610	..	31,280	32,256	976	..	99,985	104,571	4,586	..
Total ..	322,871	347,194	24,643	320	40,971	40,583	1,054	1,442	363,842	387,777	25,035	1,100

148. The table on the preceding page shows the work of Local Fund Vaccinators for each of the five Registration Districts. In the Konkan there is a decrease in the primary vaccinations, revaccinations and total operations of 320, 780 and 1,100 respectively. In revaccinations there is an increase of 1,054 in the other four districts, and in primary vaccinations there is an increase of 24,643. On the whole, there is a net increase of 23,935. This year there were 241 Vaccinators against 229 in the previous year. There were 4 more in the Southern Deccan, in the Dhárwár District; 2 in Eastern Gujarát, in the Ahmedabad District, and 6 in Sind—1 in Hyderabad, 1 in Thar and Párkar and 4 in the Shikárpur Collectorate. There are now only 6 Vaccinators (1 in Kolába, 1 in Broach and 4 in Karáchi) who have more than one rural circle to attend to. The Local Fund Vaccinators worked over an area of 124,142 square miles and amongst a population of 14,610,686. They primarily vaccinated 347,194 and revaccinated 40,583 persons. The number primarily vaccinated successfully was 337,392 or 97·18 per cent., and those revaccinated successfully were 30,370 or 74·83 per cent. The rate of protection per mille of population was 25·17. The total cost amounted to Rs. 73,406-8-10. Each successful case cost annas 3 and pies 2, or 1 pie more than in 1879-80. The unsuccessful in each kind of operations were, respectively, 4,911 and 5,556, and the unknown were 5,737 and 4,718. There were 846 secondary operations and 61 repetitions of revaccinations. Each Vaccinator averaged 1,609 persons :—

Work of Local Fund Vaccinators.

Districts and Circles.	Persons Primarily Vaccinated.				Persons Revaccinated.				Total Number of Persons Operated on.			
	1879-80.	1880-81.	Increase.	Decrease.	1879-80.	1880-81.	Increase.	Decrease.	1879-80.	1880-81.	Increase.	Decrease.
Northern Deccan Registration District..	1,670	1,643	..	27	138	106	..	32	1,808	1.749	..	59
Southern Deccan Registration District.. ..	26,736	32,229	5,503	..	263	206	..	57	26,989	32,435	5,446	..
Konkan Registration District	7,862	8,352	490	..	785	312	..	473	8,647	8,664	17	..
Eastern Gujarát Registration District	23,613	27,814	4,201	..	75	84	9	..	23,688	27,898	4,210	..
Western Gujarát Circle ..	61,443	70,794	9,351	..	3,938	3,116	..	822	65,381	73,910	8,529	..
Sind Registration District	2,303	1,962	..	341	23	135	112	..	2,326	2,097	..	229
Baroda	49,105	52,742	3,637	..	166	229	63	..	49,271	52,971	3,700	..
Cutch	15,474	17,875	2,401	..	1,357	214	..	1,043	16,731	18,089	1,358	..
Total ..	189,196	213,411	25,583	368	6,645	4,402	184	2,427	194,841	217,813	23,260	288

149. The above table shows the work of Native State Vaccinators in five Districts and three Circles. For three Districts and three Circles, viz., the Southern Deccan, the Konkan, and the Eastern Gujarát and Western Gujarát, Baroda and Cutch; there is an increase in primary vaccinations of 25,583, but there is a decrease of 368 in the Northern Deccan and Sind. In revaccinations there is a decrease of 2,427 in the Northern and Southern Deccan, Konkan, Western Gujarát, and Cutch. This decrease is more than the increase, which amounts to 184 only. On the whole, the net decrease is 2,243. There were 144 Vaccinators maintained by Native States against 142 last year, or 2 more employed in Cutch. They worked over an area of 69,955 square miles and amongst a population of 8,665,204. The numbers primarily vaccinated were 213,411, and 4,402 were revaccinated. Of these the successes were 202,210 and 2,863 respectively, or 94·75 and 65·04 per cent. The unsuccessful and unknown in primary vaccinations were 6,612 and 5,425, and 1,061 and 480 in revaccinations. There were 836 secondary operations, and only two persons were revaccinated more than once. Out of every 1,000 of population 23·67 were successfully operated on. The total cost amounted to Rs. 48,484-11-0. This gives annas 3 and pies 9 per each successful case, or 7 pies less than last year. The average number of persons operated on by each Vaccinator was 1,513. Additional Vaccinators are required for each of the States of Sávantvádi, Sángli Táluka, Gad Hinglaj, Panála, Kolhápur Petha, and Khairpur.

Work of Native State Vaccinators.

States that require additional Vaccinators.

Work of Dispensary Officers.

150. There were 161 Dispensaries, or 18 more than in the preceding year, in which vaccination was carried on. The following table shows the progress of vaccination in Dispensaries by each District and Circle :—

Districts and Circles.	Persons Primarily Vaccinated.				Persons Revaccinated.				Total Number of Persons Operated on.			
	1879-80.	1880-81.	Increase.	Decrease.	1879-80.	1880-81.	Increase.	Decrease.	1879-80.	1880-81.	Increase.	Decrease.
Northern Deccan Registration District	4,100	4,489	389	..	34	41	7	..	4,134	4,530	396	..
Southern Deccan Registration District	3,344	4,137	793	..	325	291	..	34	3,669	4,428	759	..
Konkan Registration District ..	2,375	3,328	953	..	144	63	..	81	2,519	3,391	872	..
Eastern Gujarát Registration District	3,700	3,585	..	115	87	132	45	..	3,787	3,717	..	70
Western Gujarát Circle	812	1,099	287	..	186	100	..	86	998	1,199	201	..
Sind Registration District ..	2,487	2,186	..	301	1,861	1,847	..	14	4,348	4,033	..	315
Baroda	2,137	3,175	1,038	..	6	1	..	5	2,143	3,176	1,033	..
Zanzibar, Bassadore and Muscat .	164	733	569	..	..	4	4	..	164	737	573	..
Total ..	19,119	22,732	4,029	416	2,643	2,479	56	220	21,762	25,211	3,834	385

A decrease of 416 is observed in the Eastern Gujarát and Sind in primary vaccinations. The decrease in the Eastern Gujarát is chiefly owing to less work in the Dispensaries of Surat and Kaira Zillas, and in Sind in those of Guádar and Karáchi Zilla. There is an increase of 4,029 in other Districts. In revaccinations there is an increase of 56 in Northern Deccan, Eastern Gujarát and Zanzibar, Bassadore and Muscat, and a decrease of 2,250 in the other Districts. On the whole, there is a net increase of 3,449 over the work of last year. There were 22,732 persons primarily vaccinated and 2,479 revaccinated. The respective numbers of successful cases were 21,009 and 1,914. The percentages of success were 92·42 and 77·21. The unsuccessful and unknown were 1,183 and 709 in primary vaccinations, and 335 and 240 in revaccinations. The number of secondary operations was 169. Ten persons were revaccinated more than once.

Work performed in the Army generally.

151. The following table shows details of vaccination in the Army generally and amongst Camp Followers :—

	Primary Vaccinations.																	
	1		2					3			4					5	6
	Sex.		Caste.					Age.			Results.						
											Successful.			Unsuccessful and doubtful.	Unknown.	Total.	Excess of Operations over Persons.
	Males.	Females.	Christians.	Hindus.	Musálmans.	Pársis.	Other Castes.	Under 1 year.	Between 1 and 6 years.	Above 6 years.	Under 1 year.	Above 1 and 6 years.	Total of all Ages.				
British Army.																	
Regiments .. {1879-80 ..	129	129	236	19	3	..	..	219	26	13	201	26	236	20	8	264	6
{1880-81 ..	147	124	269	2	..	..	..	258	4	9	230	4	240	29	8	277	6
Camp Followers. {1879-80 ..	221	156	67	233	51	6	20	197	130	50	193	125	368	9	..	377	..
{1880-81 ..	218	170	49	288	38	2	11	198	124	66	180	124	370	9	10	389	1
Total. {1879-80 ..	350	285	303	252	54	6	20	416	156	63	394	151	604	29	8	641	6
{1880-81 ..	365	294	318	290	38	2	11	456	128	75	410	128	610	38	18	666	7
Native Army.																	
Regiments .. {1879-80 ..	594	490	60	658	340	..	26	875	201	8	858	167	1,033	66	5	1,104	20
{1880-81 ..	548	491	32	745	220	1	41	784	223	32	760	203	992	69	..	1,061	22
Camp Followers. {1879-80 ..	1,027	938	61	1,001	478	23	402	1,470	494	1	1,254	211	1,466	263	249	1,978	13
{1880-81 ..	1,411	1,105	59	1,188	934	17	318	1,902	425	189	1,610	271	1,992	262	264	2,518	2
Total. {1879-80 ..	1,621	1,428	121	1,659	818	23	428	2,345	695	9	2,112	378	2,499	329	254	3,082	33
{1880-81 ..	1,959	1,596	91	1,933	1,154	18	359	2,686	648	221	2,370	474	2,984	331	264	3,579	24

	Revaccinations.							Percentages of Successful Cases.	
	7		8			9	10	11	
	Sex.		Result.						
	Males.	Females.	Successful.	Unsuccessful and doubtful.	Unknown.	Total.	Excess of Operations over Persons	In Primary Vaccinations.	In Revaccinations.
British Army.									
Regiments .. 1879-80 ..	376	49	201	219	11	431	6	91·47	47·29
Regiments .. 1880-81 ..	1,310	78	571	654	171	1,396	8	88·56	41·14
Camp Followers .. 1879-80 ..	14	1	7	8	....	15	....	97·61	46·67
Camp Followers .. 1880-81 ..	768	450	766	427	25	1,218	....	95·36	62·89
Total.. 1879-80 ..	390	50	208	227	11	446	6	95·12	47·27
Total.. 1880-81 ..	2,078	528	1,337	1,081	196	2,614	8	92·56	51·30
Native Army.									
Regiments .. 1879-80 ..	1,349	53	832	582	5	1,419	17	95·29	59·34
Regiments .. 1880-81 ..	2,217	79	1,516	789	6	2,311	15	95·48	66·03
Camp Followers .. 1879-80 ..	68	38	43	59	4	106	....	74·61	40·57
Camp Followers .. 1880-81 ..	432	109	432	89	20	541	....	79·17	79·85
Total.. 1879-80 ..	1,417	91	875	641	9	1,525	17	81·96	58·02
Total.. 1880-81 ..	2,649	188	1,948	878	26	2,852	15	83·94	68·66

European Troops.

152. Amongst European Troops the number of persons primarily vaccinated was 659, and in 610 cases, or 92·56 per cent., the operation was successful. The unsuccessful and unknown were 38 and 18 respectively: there were 7 secondary operations. The revaccinations were 2,606, of which 1,337, or 51·30, were successful, whilst 1,081 were unsuccessful and 196 were unknown. Eight persons were revaccinated more than once. Last year there were 635 persons primarily vaccinated and 440 were revaccinated, so there is a net increase of 2,190 persons.

Native Troops.

153. In the Native Army the primarily vaccinated numbered 3,555 and the revaccinated 2,837. In primary vaccinations there is an increase of 506, and in revaccinations of 1,329. The number of persons primarily vaccinated successfully was 2,984, or 83·94 per cent. This is 1·98 more than in the preceding year. In revaccinations there were 1,948, or 68·66 per cent., successful. The unsuccessful and unknown cases numbered respectively 331 and 264 in primary vaccinations, and 878 and 26 in revaccinations. Secondary operations were 24, and 15 persons were revaccinated more than once. The work performed by Vaccinators in the Military Stations of Mhow, Neemuch and Nasirabad is included, as usual, in that for Camp Followers.

Average number of Operations per each kind of Establishment.

154. The average number of persons operated on by different establishments is specified below for the years 1879-80 and 1880-81 :—

No.	Establishments.	Average Number of Persons Operated on.	
		1879-80.	1880-81.
1	2 Government Vaccinators	1,698	2,071
2	39 Municipal do.	1,399	1,516
3	1 Cantonment do.	1,412	1,278
4	241 Local Fund do.	1,589	1,609
5	144 Native State do.	1,372	1,513
6	427 For the whole Presidency	1,496	1,569

There is an increase under all establishments, except the Cantonment Vaccinator, whose revaccinations were less this year than in 1879-80.

Average number of Operations per Vaccinator by Districts and Circles.

155. The subjoined table indicates the averages by Districts and Circles :—

No.	Districts and Circles.	Average Number of Persons Vaccinated by each Vaccinator.		Names of Deputy Sanitary Commissioners and Superintendents.
		1879-80.	1880-81.	
1	Sind Registration District ...	2,152	2,087	Drs. A. W. G. Adey and C. W. MacRury.
2	Presidency Circle	1,842	2,016	Dr. Ananta Chandroba.
3	Western Gujarát Circle ...	1,599	1,815	Dr. J. T. Welsh.
4	Baroda Circle	1,590	1,709	Dr. Bhalchandra Krishna.
5	Konkan Registration District...	1,586	1,566	Drs. J. Parker and O. H. Channer.
6	Eastern Gujarát Registration District.	1,444	1,498	Dr. M. B. Colah.
7	Northern Deccan Registration District.	1,353	1,440	Dr. J. Parker.
8	Southern Deccan Registration District.	1,137	1,269	Drs. H. A. Lewis and J. W. Clarkson.
9	Aden	878	1,144	Dr. E. Colson.
10	Cutch Circle	1,115	1,064	Dr. Dorabji Hormusji.
	Average for the whole Presidency.	1,496	1,569	

The averages are below those of last year in the Konkan, Sind and Cutch. The Northern and Southern Deccan, Konkan, Eastern Gujarát, Cutch and Aden are below the average for the whole Presidency. Aden has risen from the 10th to the 9th place, whilst Cutch has fallen from the 9th to the 10th place. All others hold the same places as last year.

English Lymph.

156. The first statement on the opposite page shows the result for the English lymph received during the year. There were six separate consignments, two of 45 tubes each for the Bombay District and four for Aden where English lymph is now sent direct. Of the two Bombay consignments, the second was better in quality than the first, which proved ineffectual in the Konkan and Sind; and in Northern Deccan, out of 26 insertions made on the arms of 7 children by using six tubes, the resulting vesicles were thirteen. In Aden the third consignment was better than the second, and the first had only two tubes that produced 3 good vesicles out of 9 insertions on the arms of two children.

Quality of the Lymph in use.

157. The quality of the lymph in use was throughout good.

Lymph supplied.

158. During the year lymph was supplied to the Civil Surgeon, Zanzibar, to the Surgeon to His Excellency the Governor of Bombay, Surgeons, G. I. P. Railway, at Sholápur and Bhusával, the Medical Officer, Purandhar Sanitarium and 3rd and 4th Cavalry, Hyderabad Contingent, at Elichpur, from the Northern Deccan; to the Civil Surgeon, Zanzibar, and Medical Officer, I. G. Steamer *Comet*, at Bagdad, from the Konkan; to the Superintendent of Dispensaries and Vaccination, Rájputána, Native Superintendent of Vaccination, Jodhpur, Civil Hospital, Sádra, Mount Abú Sanitarium, Staff Surgeon, Nasirabad, and Surgeon, 2nd Grenadiers N. I., from the Eastern Gujarát; to the Deputy Surgeon-General, Kandahar, from Sind; to the Medical Officer, 7th Regiment N. I., from Cutch; and to the Medical Officer, Artillery Detachment and 20th N. I., from Baroda.

Supplies received in	No. on the Packet.	Districts and Circles.	Number of Tubes received and tested.	Number of Children operated on.	Number of Insertions.	Number of Resulting Vesicles.	Character of Vesicles.	Remarks.
January 1881.	283 & 288	Northern Deccan Registration District	7	7	26	13	Large in 3 children only.	One tube broken in transit. Thirteen children were vaccinated with the lymph from these vesicles. The use of only two tubes had a successful result.
	92 & 271	Southern Deccan Registration District	6	6	27	23	Good	
	290 & 293	Konkan Registration District..	6	4	24	6	Not good	
	307 & 308	Eastern Gujarát Registration District	6	6	34	27	Good..	Twenty-four children were vaccinated with the lymph from these vesicles.
	308	Western Gujarát Circle.. ..	6	6	35	28	Do.	One child unsuccessful. Lymph good.
	478							
	298	Sind Registration District ..	7	6	48	3	Bad	Unsuccessful.
	303							
	550	Baroda	4	4	24	11	Good and characteristic.	
	553	Cutch	3	3	12	6	Good.	
		Total ..	45	42	230	117		
January 1881.	107	Northern Deccan Registration						
	490	District	7	8	30	17	Large	Twenty children were vaccinated with the lymph from these vesicles. The use of only 2 tubes had an unsuccessful result.
	473	Southern Deccan Registration						
	489	District	6	6	31	25	Good.	
	393	Konkan Registration District ..	6	6	36	30	Do.	
	395							
	395	Eastern Gujarát Registration						
	399	District	6	6	24	20	Generally good ..	Eight children were vaccinated with the lymph from 9 vesicles.
	133	Western Gujarát Circle	6	6	36	11	Good but small ..	Three cases unsuccessful.
	275							
	133	Sind Registration District ..	7	9	72	11	Good	Successful.
	388	Baroda	4	3	18	11	Good and characteristic.	One tube was found empty.
	465	Cutch	3	3	12	6	Good.	
		Total ..	45	47	259	131		
	April ..	Aden	6	8	24	3	Very good	Lymph in 4 tubes failed,
	June ..		6	7	21	6	Do.	Do. 3 do.
	October.		6	6	18	9	Do.	Do. in do.
	March..		6	..	..	..	....	The fourth supply is kept as a reserve.
		Total ..	24	21	63	18		
		Grand Total ..	114	110	552	266		

159. Animal vaccination was carried on in Bombay, Poona and Karáchi. The annexed table shows the number of heifers inoculated and the monthly result of the operations in each of the places mentioned :—

Animal Vaccination.

Months.	Poona.			Bombay.			Kara'chi.			Total.		
	Heifers inoculated.	Successful.	Unsuccessful.	Heifers inoculated.	Successful.	Unsuccessful.	Heifers inoculated.	Successful.	Unsuccessful.	Heifers inoculated.	Successful.	Unsuccessful.
April 1879	6	6	...	33	33	...	4	4	...	43	43	...
May ,, ...	7	7	...	32	32	...	...	...	...	39	39	...
June ,, ...	7	7	...	30	30	...	...	...	...	37	37	...
July ,, ...	5	5	...	39	37	2	...	...	...	44	42	2
August 1879	7	7	....	34	30	4	...	...	...	41	37	4
September 1879	6	6	...	30	27	3	...	...	...	36	33	3
October ,, ...	5	5	...	32	30	2	...	...	...	37	35	2
November ,, ...	4	4	..	30	29	1	...	...	...	34	33	1
December ,, ...	7	7	...	34	33	1	...	...	...	41	40	1
January 1880...	3	3	...	41	41	...	...	...	...	44	44	...
February ,, ...	1	1	...	32	31	1	...	...	...	33	32	1
March ,, ...	2	2	...	39	39	...	...	...	...	41	41	...
Total ...	60	60	...	406	392	14	4	4	...	470	456	14

In Poona 60 heifers were successfully inoculated. They were purchased for Rs. 193-14-0, and were kept by the Municipality, not by the Vaccinators as heretofore. The cost of coolies employed in conveying them from

place to place was Rs. 80-12-3. Their resale realized Rs. 90, so the net expenditure amounted to Rs. 184-10-3 against Rs. 173-5-0 last year. The Municipality have passed a resolution prohibiting the use of their heifers beyond Municipal limits without payment, as they bear the entire cost of animal vaccination.

In Bombay 406 heifers were inoculated against 500 during the preceding year. On 14 heifers the operations proved unsuccessful. Two calves were inoculated successfully out of 4 with the Brussel's cow-lymph received from Dr. Warlomont. The total cost was Rs. 2,505-4-3, whilst last year it was Rs. 2,718-10-2.

In Karáchi 4 heifers were inoculated successfully in the month of April; the total cost was Rs. 12. The last inoculation was on the 13th April 1880, after which it was discontinued owing to the opposition offered by the Hindu community. Except in Bombay, where animal lymph only is kept up, and in Poona and Karáchi where both animal and human lymph were in use, vaccination in all other places was carried on from arm to arm and with human lymph. On the whole, the number of heifers inoculated was 470, and in 14 it failed; the total cost was Rs. 2,701-14-6.

Expenditure.

160. The total expenditure on account of vaccination may be seen from the following table :—

Establishment.	Total Expenditure.		Compared with the preceding year.
	1879-80.	1880-81.	+Increase or —Decrease.
	Rs. a. p.	Rs. a. p.	Rs. a. p.
Provincial	1,07,315 2 8	94,875 8 10	—12,439 9 10
Municipal	19,222 14 11	20,045 8 5	+822 9 6
Cantonment...	326 7 0	326 13 6	+0 6 6
Local Fund	66,962 0 8	73,406 8 10	+6,444 8 2
Native State	48,809 0 7	48,484 11 0	—324 5 7
Total ...	2,42,635 9 10	2,37,139 2 7	—12,763 15 5
			+7,267 8 2
			—5,496 7 3

Decrease of Expenditure.

The decrease under "Provincial Funds" is chiefly due to lower rates of pay drawn by the Civil Surgeons in charge of the Sind and Southern Deccan Registration Districts, and by Dr. Parker in charge of the Konkan Registration District, as Drs. MacRury, Clarkson and Channer were away on Military duty during the greater part of the year. The increase under "Municipal" is owing to the increase of establishment in Sind, under the Compulsory Vaccination Act (No. IV. of 1879) at Karáchi, having been paid for the entire year. The increase under "Local Funds" is due to an increase of 4 Vaccinators in the Southern Deccan, 2 in Eastern Gujarát and 6 in Sind. The decrease under Native States is chiefly due to several Vaccinators in Western Gujarát not being paid their gratuity for insufficient work in 1879-80.

Cost of each successful case including all charges.

161. The total cost for the whole Presidency, including all charges, was Rs. 2,37,139-2-7, and the successful cases, excluding Dispensaries and the Army, were 632,192. The average cost per each successful case was annas 6, or 8 pies less than last year.

Cost of each successful case after deducting the pay of the Supervising Officers by Districts and Circles.

162. The total cost and the cost per each successful case, after deducting the pay of the Deputy Sanitary Commissioners and Superintendents, is shown in the following table by Districts and Circles compared with that for 1879-80 :—

Names of Districts and Circles.		Deputy Sanitary Commissioners and Superintendents.	Successfully Vaccinated and Re-vaccinated.	Total Cost, excluding the Pay of Deputy Sanitary Commissioners and Superintendents.	Average Cost of each Successful Vaccination.	Number of Vaccinators.
				Rs. a. p.	Rs. a. p.	
Northern Deccan Registration District.	1879-80	Dr. J. Parker	98,895	34,206 5 8	0 5 6	77
	1880-81		107,919	35,749 6 8	0 5 4	77
Southern Deccan Registration District.	1879-80	Drs. H. A. Lewis and J. W. Clarkson	86,823	33,828 4 3	0 6 3	80
	1880-81		101,408	34,216 7 7	0 5 5	83
Konkan Registration District.	1879-80	Drs. J. Parker and O. H. Channer	70,573	22,895 15 2	0 5 2	47
	1880-81		70,706	22,862 13 1	0 5 2	47
Presidency Circle	1879-80	Dr. Ananta Chandroba	12 501	9,108 8 1	0 11 8	9
	1880-81		14,508	9,559 9 1	0 10 7	9
Eastern Gujarát Registration District.	1879-80	Dr. M. B. Colah	84,621	26,308 0 7	0 5 0	61
	1880-81		89,101	27,088 14 5	0 4 10	62
Western Gujarát Circle	1879-80	Dr. J. T. Welsh	61,492	22,161 12 1	0 5 9	43
	1880-81		70,801	20,141 8 6	0 4 7	43
Sind Registration District	1879-80	Drs. A. W. G. Adey and C. W. MacRury	102,423	28,862 0 3	0 4 6	53
	1880-81		108,644	27,875 5 3	0 4 1	58
Baroda	1879-80	Dr. Bhalchandra Krishna	47,295	11,577 10 4	0 3 11	31
	1880-81		50,354	11,608 7 8	0 3 8	31
Cutch	1879-80	Dr. Dorabji Hormusji	14,194	6,466 11 1	0 6 9	15
	1880-81		17,523	6,558 4 4	0 6 0	17
Aden	1879-80	Dr. E. Colson	784	360 0 0	0 7 4	1
	1880-81		728	370 0 0	0 8 2	1
		Total.. 1879-80	579,601	1,95,775 3 6	0 5 5	417
		Total.. 1880-81	632,192	1,96,030 12 7	0 5 0	428

The cost per each successful case was less than last year in all the Districts and Circles, except Aden. In the Konkan it was the same. The total cost was Rs. 1,96,030-12-7, which, when divided amongst 632,192 successful cases, amounts to annas 5, or 5 pies less than for the previous year.

Work of Deputy Sanitary Commissioners and Superintendents of Vaccination.

163. The inspectorial work performed by the Supervising Officers may be seen from the table annexed :—

Names of Districts and Circles.		Deputy Sanitary Commissioners and Superintendents.	Number of Encampments.	Number of Travelling Days.	Distance travelled in Miles.	Number of Villages visited.	Number of Vaccinated Children inspected.
Northern Deccan Registration District.	1879-80	Dr. J. Parker	52	199	2,881½	236	9,486
	1880-81		47	144	3,189	237	8,649
Southern Deccan Registration District.	1879-80	Drs. H. A. Lewis and J. W. Clarkson	68	123	1,447½	147	6,613
	1880-81		17	34	376	33	2,096
Konkan Registration District.	1879-80	Drs. J. Parker and O. H. Channer	26	63	813	87	4,557
	1880-81		24	75	1,694½	84	7,973
Eastern Gujarát Registration District.	1879-80	Dr. M. B. Colah	55	159	2,114	353	7,705
	1880-81		49	159	2,102	314	7,084
Western Gujarát Circle	1879-80	Dr. J. T. Welsh	44	78	809	131	4,373
	1880-81		40	73	690	180	8,667
Sind Registration District	1879-80	Drs. A. W. G. Adey and C. W. MacRury	49	64	1,282	427	17,461
	1880-81		25	35	575	129	8,067
		Total.. 1879-80	294	686	9,346½	1,381	50,195
		Total.. 1880-81	202	520	8,626½	977	42,536

In Western Gujarát the greatest number of children inspected was 8,667 against 4,373 last year—nearly double the number; next to it are the Northern Deccan and Sind, in which the number inspected were respectively 8,649 and 8,067 against 9,486 and 17,461 in 1879-80; the least number inspected was in Sind, less than half the number of last year, as also in the Southern Deccan, in which the children inspected were 2,096 against 6,613 in the previous year. This is owing to Drs. MacRury and Clarkson being away on Military duty during the greater part of the year, their office duties only being conducted by the Civil Surgeons. Dr. Clarkson resumed charge on the 29th March 1881, and Dr. MacRury on the 27th November last. In the Konkan more children were seen in nearly the same number of villages as last year, whilst in Eastern Gujarát fewer were seen and fewer villages visited. The rate of travelling was quicker in the

Northern Deccan and Konkan. On the whole, the total numbers for villages, children, travelling days, miles, and encampments are less than in any one of the preceding four years, and this may be set down to the exigencies of the service as before noted:—

Districts and Circles.		Work tested by calling Names from Registers.											
		Number of Vaccinated Children inspected.	Present during Inspection.				Absent during Inspection.		Number of Persons whom the Vaccinator has returned as Vaccinated.				
			Successful.			Unsuccessful.	Absence accounted for.	Absence Unaccounted for.	Successful.	Unsuccessful and doubtful.	Unknown.	Total.	Excess of Operations over Persons.
			Good.	Middling.	Bad.								
Northern Deccan Registration District	1879-80.	8,065	6,737	621	334	373	9,494	..	16,945	382	295	17,622	63
	1880-81.	7,199	6,258	471	243	227	6,846	..	13,542	259	264	14,065	20
Southern Deccan Registration District	1879-80.	3,875	2,842	459	332	192	3,067	..	6,420	286	240	6,946	4
	1880-81.	1,406	898	167	246	95	1,547	..	2,699	163	114	2,976	23
Konkan Registration District	1879-80.	8,962	3,244	367	147	204	1,490	..	4,641	676	135	5,452	..
	1880-81.	7,598	6,018	803	399	378	3,591	..	10,223	634	332	11,189	..
Eastern Gujarát Registration District	1879-80.	7,630	4,034	2,827	537	232	2,204	..	9,388	348	151	9,888	54
	1880-81.	7,084	4,233	2,259	422	170	1,852	104	8,673	266	161	9,100	60
Western Gujarát Circle	1879-80.	2,128	1,568	250	201	109	1,386	14	3,205	169	154	3,528	..
	1880-81.	2,498	1,669	452	273	104	1,505	..	3,624	232	152	4,008	5
Sind Registration District	1879-80.	3,173	1,426	1,227	395	125	2,534	7	5,333	174	219	5,726	12
	1880-81.	2,794	1,740	455	511	88	1,329	..	3,649	210	264	4,123	..
Total	1879-80.	28,833	19,851	5,751	1,996	1,235	20,175	21	45,932	2,035	1,195	49,162	133
	1880-81.	28,579	20,816	4,607	2,094	1,062	16,670	104	42,410	1,764	1,287	45,461	108

Inspections from Vaccination Registers.

164. It will be seen from the above table that for 42,536 children the results in 28,579 instances were tested by calling their names from Registers, in which there were enrolled the names of 45,353 children, of whom 108 were vaccinated more than once on failure of the first operation. The results given by Vaccinators were 42,410 as successful, 1,656 unsuccessful, exclusive of 108 secondary operations and 1,287 unknown; while on inspection they were found to be 27,517, 1,062 and 16,774. Excluding the "unknown," or rather the number of children "absent" at the time of inspection from both sides, the Vaccinators' figures give the percentages of 96·24 as successful and 3·76 as unsuccessful, while the inspection figures give them as 96·28 and 3·72. This test establishes the truthfulness of the result noted by Vaccinators. Again, out of 27,517 or 96·28 successful children, there were 20,816 or 72·83 who had "good" cicatrices on their arms, 4,607 or 16·12 "middling," and 2,094 or 7·33 "bad," which show the degree of protection afforded. The greatest number of inspections was in the Konkan, Northern Deccan and Eastern Gujarát, and the least in Southern Deccan. The number of children whose arms were inspected without the register test were 13,957, of whom 61.69 were in Western Gujarát and 5,273 in Sind, whilst in the Northern and Southern Deccan and Konkan they were together 2,515. In the Eastern Gujarát no inspections were held without the register test.

Truthfulness of Vaccination Registers.

Classification of successful cases.

Inspections without Vaccination Registers.

Remarks on the work of the Supervising Officers.

165. With such constant changes it is impossible to remark on individual efforts, but I trust it will be acknowledged that all have worked zealously and conscientiously.

Work of Inspectors and Assistant Superintendents.

166. The work of Inspectors and Assistant Superintendents of Vaccination is detailed by Districts and Circles in the table on the opposite page.

There were 31 Inspectors and 4 Assistant Superintendents on travelling duty. Of this number 27 Inspectors and 2 Assistant Superintendents were paid by Government, and the others by Native States. The names of 363,338 children were called from the Registers, and 283,631 were present, 79,435 were absent, but known to be absent, and 272 could not be accounted for, as they had migrated.

Districts and Circles.		Number of Encampments.	Number of travelling days.	Distance travelled in miles.	Number of Villages visited.	Work tested by calling Names from Registers.										
						Number of Vaccinated Children inspected.	Present during Inspection.				Absence during Inspection.		Number of Persons whom the Vaccinator has returned as Vaccinated.				
							Successful.										
							Character of Vesicles and Cicatrices.			Unsuccessful.	Absence accounted for.	Absence unaccounted for.	Successful.	Unsuccessful and doubtful.	Unknown.	Total.	Excess of Operations over Persons.
							Good.	Middling.	Bad.								
Northern Deccan Registration District.	1879-80.	1,094	1,750	12,959	1,845	38,697	33,412	2,354	761	2,170	17,335	..	58,283	1,224	1,520	56,036	4
	1880-81.	1,132	1,833	14,321	2,325	48,545	41,895	3,133	1,176	2,341	16,194	8	63,903	948	840	64,791	44
Southern Deccan Registration District.	1879-80.	969	1,371	10,990½	2,718	46,663	38,754	4,887	1,200	1,822	15,576	64	59,794	1,182	1,442	62,418	115
	1880-81.	1,128	1,571	12,380½	2,767	61,694	48,962	8,152	2,381	2,199	16,528	45	75,571	1,168	1,660	78,399	132
Konkan Registration District.	1879-80	732	1,054	8,743	1,081	24,264	16,838	3,302	1,784	2,340	4,702	7	27,289	1,237	488	29,014	41
	1880-81.	713	1,075	8,921	1,194	28,815	21,216	3,645	1,852	2,102	5,007	..	32,456	872	530	33,858	36
Eastern Gujarát Registration District.	1879-80.	354	1,157	11,227	2,200	33,714	15,211	13,692	3,865	946	7,813	118	40,075	1,034	661	41,770	125
	1880-81.	415	1,113	11,333	2,666	40,087	19,506	15,362	4,152	1,067	8,518	7	46,631	1,276	861	48,768	156
Western Gujarát Circle.	1879-80.	244	532	3,205	582	11,234	7,323	2,378	1,075	458	5,114	82	14,613	1,144	761	16,538	108
	1880-81.	292	514	3,644	783	13,313	8,730	2,815	1,295	473	3,893	..	15,608	999	618	17,225	14
Sind Registration District.	1879-80.	740	1,270	15,676	2,475	35,260	10,944	12,180	8,624	3,512	19,674	298	49,428	3,020	2,980	55,428	196
	1880-81.	751	1,471	17,120	3,038	46,957	16,372	13,465	13,301	3,819	22,819	109	62,726	3,649	3,728	70,103	218
Cutch.. ..	1879-80.	162	249	1,910	480	11,532	7,104	1,513	1,462	1,453	1,320	17	11,061	939	869	12,869	..
	1880-81.	177	253	2,091	512	12,457	9,789	1,195	979	494	1,684	52	13,650	362	274	14,286	93
Baroda ..	1879-80.	852	927	7,034	1,399	28,441	22,385	3,589	2,330	137	4,325	6	31,372	970	430	32,772	..
	1880-81.	959	1,066	7,215	1,565	31,763	25,723	3,747	..	2,293	4,787	51	34,938	1,197	590	36,725	124
Total ..	1879-80.	5,147	8,310	71,744½	12,780	229,805	151,971	43,895	21,101	12,838	75,859	592	286,915	10,750	9,180	306,845	589
	1880-81.	5,567	8,896	77,025⅓	14,850	283,631	192,193	51,514	25,136	14,788	79,435	272	344,583	10,471	9,101	364,155	817

Out of 283,631 children inspected, 268,843, or 94·79 per cent., were protected, and in 14,788 cases, or 5·21 per cent., the operation was unsuccessful. Again, out of 268,843, or 94·79 per cent., successful cases, 192,193 or 67·76 per 100 had "good" cicatrices, 51,514 or 18·16 "middling," and 25,136 or 8·86 "bad." In the Registers tested, the results were entered as 344,583 successful; 10,471 unsuccessful; 9,101 unknown or absent; and 817 secondary operations. Excluding the unknown and secondary operations from calculation, to compare this result with that of inspection, the percentages of successful and unsuccessful cases are respectively 97·27 and 2·73. The rate of travelling was quicker than last year in the Konkan, Gujarát and Cutch, and the number of villages seen was greater in all the Districts and Circles. The greatest number of villages seen was in Sind, the Northern Deccan and Eastern Gujarát, where the respective numbers were 30,383, 2,325 and 2,666, whilst in 1879-80 they were 2,475, 1,845 and 2,200. On the whole, the rate of travelling was quicker and the number of villages inspected was greater than last year by 2,070. Three Inspectors, 2 in Sind and 1 in Western Gujarát, retired on pension. One Inspector in Eastern Gujarát was promoted from 3rd to 2nd Class, and transferred to the Western Gujarát, and the Inspectors of Sholápur and Belgaum Zillas were permitted to exchange places. One Inspector in Baroda died. The conduct of all these Inspecting Officers was reported as good and satisfactory.

Their conduct.

167. Taking the work of all the Deputy Sanitary Commissioners, Superintendents, Assistant Superintendents and Inspectors together, there were 5,769 encampments; 85,651⅚ miles travelled in 9,416 days; and 326,167 children inspected in 15,827 villages. Out of every 100 persons operated on, 46·27 were this year inspected against 43·10 in the preceding year, 45·58 in 1878-79, and 35·53 in 1877-78.

Total Inspections.

Conduct of Vaccinators.

168. Eight Vaccinators were dismissed the service—1 in the Southern Deccan for disobedience; 4 in Eastern Gujarát (2 for inefficiency, 1 for falsification of returns, and 1 for misconduct); 1 in Western Gujarát for negligence; and 2 in Sind—1 for misconduct, and the other for absence without leave. Seven Vaccinators died—3 in the Northern Deccan, 1 in the Southern Deccan, 1 in the Konkan, 1 in the Presidency Circle, and 1 in Eastern Gujarát. Three Vaccinators resigned the service—1 in Eastern Gujarát and 2 in Sind. Twenty Vaccinators were transferred—4 in the Northern and 2 in the Southern Deccan; 8 in Eastern Gujarát and 6 in Sind. Seventeen Vaccinators were promoted—2 in the Northern and 4 in the Southern Deccan; 2 in the Eastern Gujarát; 4 in Sind, of whom 2 were appointed Inspectors; and 5 in Baroda, of whom 1 was appointed an Inspector. One in the Southern Deccan was reduced from the 2nd to the 3rd grade. There were 13 new appointments—1 in the Northern Deccan, 4 in the Southern Deccan, 2 in Eastern Gujarát, and 6 in Sind. Three vaccinatorships were abolished—1 in the Southern Deccan, 1 in Eastern Gujarát and 1 in Sind. The conduct of the Vaccinators generally was good.

Clerks.

169. Four clerks (2 in the Eastern Gujarát and 1 in the Western Gujarát) were promoted—1 to third class Inspectorship in Eastern Gujarát, and 2 from a second clerkship to Head clerk. One in the Konkan was dismissed for disobedience of orders. All the clerks have worked to the entire satisfaction of their superiors.

Inoculation.

170. Inoculation was reported to have been practised in the Rohri Division, Shikárpur District, in Sind. This was duly brought to notice in the proper quarters.

Ill-effects by Vaccination.

171. No instances were reported of any other disease but cow-pox having been communicated through vaccination.

Aid from Civil, Revenue and Political Officers.

172. The Civil, Revenue and Political Officers have rendered their aid, when required, to all the officers of this Department.

Small-pox by Collectorates and Registration Districts.

173. The table on the opposite page shows the deaths from small-pox for the years 1879-80 and 1880-81, as well as the ages of the deceased and the number of persons successfully operated on in each District of the Bombay Presidency.

In Khándesh, Ahmednagar, Poona, Sholápur, Sátára, Broach and Ahmedabad, there was no death from small-pox, and only one in each of the following Districts, viz.:—Násik, Kaládgi, Kaira and Panch Maháls. For Belgaum, Dhárwár, Kánara, Thána, Surat and Thar and Párkar, they were from 1 to 10. In Dhárwár, Kánara, Ratnágiri, Kolába, Surat and Hyderabad, there were more deaths from small-pox than last year. On the whole, there were 617 deaths against 1,202 in 1879-80, and the number of successful operations was 437,523, whilst last year it was 409,230. There is a marked diminution for all the Districts in the number of deaths except in Konkan, where they were 103 against 77 in 1879-80. There were 112 infants, 230 children under 12 years, and 275 persons of all other ages returned under small-pox deaths; last year the respective numbers were 279, 527 and 396. In Western Gujarát small-pox did not appear in the course of the year. Baroda and Cutch were also entirely free this year. In Aden there was only one death from this disease during the year.

Small-pox occurring after Vaccination.

174. A few cases of small-pox of a modified character, occurring after vaccination, were noticed by some of the Vaccinators in Sind and by the Assistant Superintendent in Cutch.

Progress in the Northern Deccan Registration District.

175. The Northern Deccan Registration District extends over an area of 38,614 square miles, comprising the Collectorates of Khándesh, Násik, Ahmednagar, Poona and Sholápur and the Native States of the Khándesh Agency, Akalkot

No.	Districts and Circles.	Years.	Deaths from Small-pox.			Number of Persons Successfully Operated on.
			Total Deaths.	Ages.		
				Under 1 Year.	Under 12 Years.	
	Northern Deccan Registration District.					
1	Khándesh Collectorate	1879-80	19	2	8	30,085
		1880-81	.....	.....	... ..	35,597
2	Násik do.	1879-80	6	.. ...	.....	18,446
		1880-81	1	.....	1	20,212
3	Ahmednagar do.	1879-80	2	1	.....	18,746
		1880-81	.....	.....	.....	22,324
4	Poona do.	1879-80	11	.....	4	18,063
		1880-81	.....	.....	.....	18,528
5	Sholápur do.	1879-80	1	.....	.....	15,669
		1880-81	.....	.....	.....	13,715
	Total ...	1879-80	39	3	12	101,009
		1880-81	1	.. ...	1	110,376
	Southern Deccan Registration District.					
6	Sátára Collectorate	1879-80	5	3	1	25,984
		1880-81	.....	.....	.....	27,875
7	Belgaum do.	1879-80	7	1	5	15,475
		1880-81	6	.....	.....	17,154
8	Dhárwár do.	1879-80	.....	... ..	.....	12,447
		1880-81	2	.....	1	17,007
9	Kaládgi do.	1879-80	7	.....	1	9,561
		1880-81	1	1	.....	10,628
	Total ...	1879-80	19	4	7	63,467
		1880-81	9	1	.....	72,664
	Konkan Registration District.					
10	Kánara Collectorate	1879-80	1	.....	.. ...	10,463
		1880-81	2	1	.....	10,129
11	Ratnágiri do.	1879-80	22	2	2	24,928
		1880-81	26	6	10	22,996
12	Kolába do.	1879-80	49	8	16	7,989
		1880-81	70	14	17	9,045
13	Thána do.	1879-80	5	1	1	21,386
		1880-81	5	1	3	23,173
	Total ...	1879-80	77	11	19	64,766
		1880-81	103	22	30	65,343
	Presidency Circle.					
14	Bombay City	1879-80	410	144	222	12,501
		1880-81	121	40	61	14,508
	Eastern Gujarát Registration District.					
15	Surat Collectorate	1879-80	2	1	1	15,212
		1880-81	8	.....	8	13,976
16	Broach do.	1879-80	1	1	.....	6,399
		1880-81	.....	.....	... ..	5,830
17	Kaira do.	1879-80	4	1	2	18,420
		1880-81	1	.....	1	17,537
18	Panch Mahás	1879-80	1	1	... ..	5,234
		1880-81	1	1	.....	6,006
19	Ahmedabad	1879-80	19	5	5	18,830
		1880-81	.....	.....	.....	21,548
	Total ...	1879-80	27	9	8	64,095
		1880-81	10	1	9	64,897
	Sind Registration District.					
20	Karáchi Collectorate*	1879-80	60	4	29	21,241
		1880-81	44	2	12	20,990
21	Hyderabad do.	1879-80	46	8	19	23,132
		1880-81	65	5	26	27,467
22	Thar and Párkar	1879-80	9	2	4	10,888
		1880-81	8	.....	.....	14,523
23	Shikárpur Collectorate†	1879-80	421	80	160	40,144
		1880-81	232	39	85	40,638
24	Upper Sind Frontier	1879-80	94	14	47	7,988
		1880-81	24	2	6	6,117
	Total ...	1879-80	630	108	259	103,393
		1880-81	373	48	129	109,735
	Grand Total ...	1879-80	1,202	279	527	409,230
		1880-81	617	112	230	437,523

* Return for March 1881 is wanting.

† Returns for February and March 1881 are wanting—Date, 16th June 1881.

and Modnimb. It has a population of 4,296,187. It was administered by a Deputy Sanitary Commissioner, who had under him 7 Inspectors of Sanitation and Vaccination, 2 Clerks, 9 Municipal, 1 Cantonment, 66 Local Fund and 1 Native State Vaccinators and 86 Peons. Three additional Vaccinators for two towns and one rural circle are required. Vaccination returns were received from 27 Dispensaries. Each Vaccinator, on an average, worked amongst a population of 55,795 souls and in an area of 501 square miles. They primarily vaccinated 106,737 and revaccinated 4,148 persons; last year the respective numbers were 98,809 and 5,357. There were 104,937, or 98·31 per cent., successful cases under primary vaccinations, and 2,982, or 71·89 per cent., under revaccinations. These together give the total rate of protection as 25·12 per mille of population, whilst last year it was 23·02. The total cost was Rs. 41,904-6-8, and the average cost per each successful case was annas 6 and pies 3, or 2 pies less than in the preceding year. Each Vaccinator averaged 1,440 persons. The Medical Officers of 27 Dispensaries returned 4,489 persons primarily vaccinated and 41 revaccinated against 4,110 and 34 in 1879-80. There was only 1 death from small-pox, whilst last year there were 39.

Khándesh Collectorate.

176. The Khándesh Collectorate had 25 Vaccinators, each of whom had, on an average, an area of 392 square miles and a population of 41,146 souls. They primarily vaccinated 34,286 persons, and in 33,630 instances, or 98·09 per cent., were successful; they revaccinated 671 persons, and in 459 cases, or 68·41 per cent., were successful. The rate of protection per mille of population was 33·14 against 27·91 in 1879-80. The total cost of vaccination was Rs. 7,131-11-7, or annas 3 and pies 4, the same as last year, per each successful case. The average number of operations per each Vaccinator was 1,398. The Medical Officers of 6 Dispensaries attended to vaccination work, which amounted to 1,537 and 25 persons under each kind of operation. There were no deaths from small-pox, whilst last year there were 19.

Násik Collectorate.

177. The Násik Collectorate had 13 Vaccinators, but another is required for the town of Yeola. The average population and area per Vaccinator were respectively 56,491 souls and 626 square miles. There were 18,966 primary vaccinations and 593 revaccinations; and 18,519 and 420, or 97·64 and 70·83 per cent., were successful. The rate per mille of population protected was 25·79, whilst last year it was 23·95. The total cost was Rs. 3,918-0-6, or annas 3 and pies 4, or 1 pie less than last year per each successful case. Each Vaccinator vaccinated 1,505 persons. In 7 Dispensaries 1,352 persons were primarily vaccinated. There was only 1 death against 6 in the preceding year.

Ahmednagar Collectorate.

178. The Ahmednagar Collectorate had 13 Vaccinators, and the average population and area per Vaccinator were respectively 59,534 souls and 511 square miles. There were 21,860 primary vaccinations and 553 revaccinations, and the successful cases were respectively 21,755 and 360, whilst the percentages of success were 99·52 and 65·10. The rate per 1,000 of protected was 28·57 against 23·52 last year. Each Vaccinator vaccinated 1,724 persons. The total cost was Rs. 3,916-6-3, and the average cost for each successful case was annas 2-10, whilst last year it was annas 3. The Medical Officers of three Dispensaries primarily vaccinated 217 persons. There were no deaths; last year there were 2.

Poona Collectorate.

179. The Collectorate of Poona had 14 Vaccinators, and 2 more are required—1 for the town of Junnar and 1 for the Khed Táluka. The average population and area per Vaccinator were respectively 64,802 souls and 364 square miles. Out of 17,232 primary vaccinations and 1,048 revaccinations, 16,913, or 98·15 and 574 or 54·77 per cent., were successful. The rate per mille of population protected was 19·28 against 18·81 last year. Each Vaccinator has, on an average, operated on 1,306 persons. The total cost was Rs. 4,337-6-6. This gives the average cost per each successful case as annas 4 against annas 3-11 last year. In 9 Dispensaries 1,150 persons were primarily vaccinated and 4 were revaccinated. There were no deaths from small-pox, whilst last year there were 11.

Sholápur Collectorate.

180. The Sholápur Collectorate had 11 Vaccinators, or one under the strength, each of whom had, on an average, an area of 409 square miles and a population of 65,276 souls. There were 12,750 primary vaccinations and 1,177 revaccinations; of these 12,560 and 1,083, or 98·51 and 92·01, were successful. The rate per mille of population protected was 19·00 against 21·82 in 1879-80. Each Vaccinator vaccinated 1,266 persons. The total cost was Rs. 3,504-4-1, which gives annas 4-1 as the average cost per each successful case. Last year it was annas 3-8. At the Karmála Dispensary 81 persons were primarily vaccinated. There was no death from small-pox, against 1 in the preceding year.

Native States in the Northern Deccan Registration District.

181. The Native States are the Dang Territory, Akalkot and Modnimb, which belongs to the Miraj State. They have a collective population of 133,952 and an area of 4,427 square miles. A Vaccinator was sent to the Dang Territory on 1st May 1879; but the opposition being too strong, he was withdrawn and transferred to British Territory. In Modnimb vaccination is carried on by the Mádha Táluka Vaccinator of the Sholápur Zilla, as it is close to that Táluka. He is paid Rs. 5 per month by the Miraj State. The Akalkot State has one Vaccinator, and the Medical Officer of the Akalkot Dispensary attends to the vaccination work of that town. The total number operated on in the two States, excluding the Dispensary, was 1,749, of which 106 were revaccinations. The successful cases were 1,560 or 94·95 per cent., and 86 or 81·13 per cent. under each kind of operation. The rate of protection per 1,000 was 12·29 against 12·36 last year. The total cost was Rs. 392-4-0, or annas 3-10 per each successful case against annas 3-8 last year. In the Akalkot Dispensary 152 persons were primarily vaccinated and 12 revaccinated.

Progress in the Southern Deccan Registration District.

182. The Southern Deccan Registration District comprises the Collectorates of Sátára, Belgaum, Dhárwár and Kaládgi, the Kolhápur States, the Sátára and the Southern Marátha Jághírs and the Savanúr State under the Dhárwár Agency. It has a population of 5,554,665 and an area of 28,021 square miles. It was administered by a Deputy Sanitary Commissioner, who had under him 6 Inspectors of Sanitation and Vaccination, 1 Assistant Superintendent of Vaccination, 2 Clerks, 6 Municpal, 47 Local Fund and 30 Native State Vaccinators and 94 Peons. Vaccination was carried on by the Medical Officers of 27 Dispensaries. Eleven additional Vaccinators for four towns, three rural circles and four Native States, are required to strengthen the establishment. Each Vaccinator had an area of 338 square miles, with an average population of 66,924 souls. They primarily vaccinated 103,630 and revaccinated 1,685 persons, and last year the respective numbers were 89,237 and 1,762. There were 100,043, or 96·54 per cent., successful primary vaccinations, and 1,365, or 81·01 per cent., revaccinations; the rate of protection per mille of population being 18·25 against 15·63 last year. The total cost was Rs. 36,607-8-8, and the average cost per each successful case was annas 5 and pies 9, or anna 1 and pies 2 less than last year. Each Vaccinator vaccinated 1,269 persons. In the Dispensaries 4,137 persons were primarily vaccinated and 291 were revaccinated. There were 9 deaths against 19 last year.

Sátára Collectorate.

183. The Sátára Collectorate has 14 Vaccinators, and 2 others are required for the towns of Karád and Wái. Each Vaccinator had, on an average, a population of 75,786 souls and an area of 343 square miles. There were 26,457 persons primarily vaccinated and 763 revaccinated. The successful cases in each were 26,005 or 98·29 and 667 or 87·42 per cent. The rate of protection per mille of population was 25·14 against 23·19 in 1879-80. Each Vaccinator vaccinated 1,944 persons. The total cost was Rs. 4,092-6-3, or annas 2-5 per each successful case against annas 2-3 in the preceding year. In 7 Dispensaries 1,261 persons were primarily vaccinated and 3 were revaccinated. There were no deaths against 9 last year.

Belgaum Collectorate.

184. The Belgaum Collectorate has 12 Vaccinators, and 2 more are required for the towns of Gokák and Athni. Each Vaccinator had, on an average, a population of 78,229 souls and an area of 383 square miles. The number of persons under each kind of opera-

tion was 16,801 and 129. The successful cases were 16,453 and 125, the percentages of success being 97·93 and 96·90, or 17·66 per mille of population against 15·95 for last year. Each Vaccinator vaccinated 1,411 persons. The total cost was Rs. 3,403-15-3, or annas 3-3 per each successful case; last year it amounted to annas 3-8. In three Dispensaries 616 persons were primarily vaccinated and only one revaccinated. There were 6 deaths against 7 last year.

Dhárwár Collectorate.

185. The Dhárwár Collectorate has in all 18 Vaccinators, each of whom had, on an average, a population of 54,891 souls and an area of 254 square miles. There were 17,645 persons primarily vaccinated and 344 revaccinated. The successful cases in each were 16,794 and 213, or 95·18 and 61·92 per cent. Out of every 1,000 persons 17·21 were successfully vaccinated against 12·60 in 1879-80. The average number of vaccinations performed by each Vaccinator was 999. The total cost was Rs. 4,968-9-4, or annas 4-8 per each successful case; last year it was annas 5-0. Vaccination was not practised in any of the Dispensaries of this Collectorate. There were 2 deaths, whilst last year there were 37.

Kaládgi Collectorate.

186. The Kaládgi Collectorate had 9 Vaccinators. The vaccinatorship in the town of Ilkal (having a population of more than 10,000) was unfortunately abolished for want of funds. The Bágalkot Town Vaccinator attends to the vaccination work in the surrounding villages of the táluka besides the town, and consequently a moiety of his pay is defrayed by the Municipality as well as by the Local Fund Committee. At least three additional Vaccinators are required for the Tálukas of Hungund, Bádámi and Indi. Each Vaccinator had, on an average, a population of 90,671 souls and an area of 633 square miles. The number of persons primarily vaccinated was 10,498 and those revaccinated were 243. The successful cases in each were 10,088 or 96·09 and 203 or 83·54 per cent. The rate of protection per mille of population was 12·61 against 11·59 in the preceding year. This result is far below the standard, and it is chiefly owing to the reduced number of Vaccinators. The average number of vaccinations performed by each Vaccinator was 1,193 persons. The total cost was Rs. 2,556-0-1, or annas 4 per each successful case against annas 4-9 in 1879-80. Vaccination was carried on in 4 Dispensaries, at Bágevádi, Ilkal, Bijápur and Muddebihál and in the Kaládgi Jail; but the number of persons primarily vaccinated was only 319, and those revaccinated were only 69. There was only one death against 7 last year.

Native States in the Southern Deccan Registration District.

187. The States of Kolháp̀ur, the Sátára and the Southern Maratha Jághírs and the Savanúr State, under the Dhárwár Agency, have a collective area of 8,364 square miles and a population of 1,750,839. There were 30 Vaccinators, but 4 more are required for Gad Hinglaj, Panála and Kolhápur Petha in the Kolhápur States, and for Sángli Táluka in the Sángli States. The Kolhápur States have 1 Assistant Superintendent of Vaccination, and the Jamkhandi State has an Inspector of Sanitation and Vaccination. There were 32,229 persons primarily vaccinated and 206 revaccinated. The successful cases of each kind were 30,703 and 157. The percentages of success were respectively 95·27 and 76·21. The rate per mille of population protected was 17·63 against 14·47 for last year. Each Vaccinator, on an average, vaccinated 1,081 persons. The total cost was Rs. 8,869-12-0, or annas 4-7 per each successful case against annas 5-6 last year. In 12 Dispensaries—3 in the Kolhápur States, 6 in the Sángli States and 3 at Rámdurg, Mudhol and Miraj—1,941 persons were primarily vaccinated and 218 were revaccinated.

Progress in the Konkan Registration District.

188. The Konkan Registration District comprises the Collectorates of Kánara, Ratnágiri, Kolába and Thána, the Native States of Sávantvádi, Janjira and Jawhár, a population of 2,915,587 and an area of 15,143 square miles. It was administered by a Deputy Sanitary Commissioner, who had under him 4 Inspectors of Sanitation and Vaccination, 2 Clerks, 2 Municipal, 42 Local Fund and 3 Native State Vaccinators and 58 Peons. Eight additional Vaccinators are required, 5 in town, 2 in rural circles and 1 in a Native State. Vaccinations were performed in 26 Dispensaries. The area for each Vaccinator was 322 square

miles, with a population of 62,034 souls. The Vaccinators returned 69,467 primary vaccinations and 4,142 revaccinations against 69,196 and 5,342 last year. Under each head the successful cases were respectively 67,686 or 97·44 per cent. and 3,020 or 72·91 per cent. There were 24·25 persons per 1,000 of population successfully operated on, whilst last year there were 24·20. The average number of vaccinations performed by each Vaccinator was 1,566, and the average cost per each successful case, calculated on the total cost of Rs. 26,191-13-11, was annas 5-11: last year it was annas 7-2. In the Dispensaries 3,328 persons were vaccinated and 63 were revaccinated. There were 103 deaths against 37 in 1879-80.

Kánara Collectorate.

189. The Kánara Collectorate has 11 Vaccinators. Two more, for the towns of Kárwár and Kumpta, are required. Each had, on an average, a population of 36,219 souls and an area of 385 square miles. Those primarily vaccinated were 9,385 and those revaccinated were 583. The number of successful cases were respectively 8,716 and 409, the percentages being 92·87 and 70·15. The rate of protection per mille of population was 22·90: last year it was 23·73. Each Vaccinator vaccinated 906 persons. The total cost was Rs. 3,210-7-2, or annas 5-8 per each successful case against annas 4-2 in the previous year. In 9 Dispensaries 1,100 persons were primarily vaccinated and 24 were revaccinated. There were 2 deaths against 1 last year.

Ratnágiri Collectorate.

190. The Ratnágiri Collectorate has 13 Vaccinators, and 2 more are required for the towns of Ratnágiri and Vengurla. Each Vaccinator had, on an average, a population of 78,395 souls and an area of 291 square miles. The number of primary vaccinations was 21,017 and of revaccinations 2,586. The successful cases were respectively 20,742 and 1,997, or 98·31 and 77·22 per cent. The rate of protection per mille of population was 22·31, and last year it was 24·45. The average number of vaccinations for each Vaccinator was 1,822. The total cost was Rs. 3,982-11-6, or annas 2-10 per each successful case: last year it was annas 2-6. At the Dápoli and Vengurla Dispensaries 289 persons were vaccinated and 6 revaccinated. There were 26 deaths against 22 in 1879-80.

Kolába Collectorate.

191. The Kolába Collectorate has 5 Vaccinators, and 2 more are wanted—1 for the Táluka of Mahád and 1 for the Nágothna Petha. Each Vaccinator had, on an average, a population of 70,081 souls and an area of 296 square miles. There were 8,844 primary vaccinations and 153 revaccinations. The successful cases were 8,664 or 97·95 and 142 or 92·81 per cent. The rate of protection per 1,000 was 25·13 against 22·24 last year. The total cost was Rs. 1,560-3-8. The average cost per successful case was annas 2-10 against annas 3-1 last year. Each Vaccinator vaccinated 1,799 persons. In 3 Dispensaries 260 persons were primarily vaccinated and 2 were revaccinated. There were 70 deaths against 49 in 1879-80.

Thána Collectorate.

192. The Thána Collectorate has 15 Vaccinators, and 1 other is required for the town of Kalyán. Each Vaccinator had, on an average, a population of 56,495 souls and an area of 270 square miles. Those primarily vaccinated were 21,789, and those revaccinated were 508. The successful cases were 21,376 and 340, or 98·10 and 66·93 per cent. The rate of protection per mille of population was 25·63; last year it was 24·27. Each Vaccinator vaccinated 1,486 persons. The total cost was Rs. 4,415-6-10, or annas 3-3 per each successful case against annas 3-3 last year. In 11 Dispensaries 1,535 persons were primarily vaccinated and 16 revaccinated. There were 5 deaths—the same as in the preceding year.

Native States in the Konkan Registration District.

193. The States of Sávantvádi, Janjira and Jawhár have a collective area of 1,585 square miles and a population of 300,216. There were 3 Vaccinators, and another is required in the Sávantvádi State. Those primarily vaccinated and revaccinated were respectively 8,352 and 312, and the successful cases were 8,188 or 98·04 and 132 or 42·31 per cent. The protected were 27·71 per mille of population against 26·25 last year. Each Vaccinator, on an average, operated on 2,888 persons. The total cost amounted to Rs. 1,186-6-8, and the

average cost per each successful case was annas 2-3 against annas 2-5 last year. The Medical Officer of Sávantvádi Dispensary primarily vaccinated 144 persons and revaccinated 15.

Progress in the Presidency Circle.

194. The City of Bombay is the Presidency Circle. It has an area of 22 square miles, with a population of 644,405 souls. It was administered by a Superintendent of Vaccination, paid by Government, and under him an Assistant Superintendent, 2 Clerks, 1 Head Vaccinator, 6 Public Vaccinators, and 2 Assistants, 13 Kárkúns and 3 Peons, all paid by the Municipality. There were 14,784 primary vaccinations and 1,342 revaccinations. The successful cases were respectively 13,533 and 975, or 91·54 and 72·65 per cent. The rate per mille of population protected was 22·51 against 19·40 last year. Each Vaccinator vaccinated 2,016 persons. The total cost was Rs. 13,759-9-1, or annas 15-2 per each successful case: last year it was Re. 1-1-0. There were 121 deaths against 410 last year.

Progress in the Eastern Gujarát Registration District.

195. The Eastern Gujarát Registration District comprises the Collectorates of Surat, Broach, Kaira, Panch Maháls and Ahmedabad and the Native States of Mahi Kántha, Rewa Kántha, Cambay, the Surat Agency and Jámbughoda. It has a population of 3,977,490 and an area of 19,783 square miles. It was administered by a Deputy Sanitary Commissioner, who had under him 5 Inspectors of Sanitation and Vaccination, 2 Clerks, 6 Municipal, 37 Local Fund and 19 Native State Vaccinators and 69 Peons. The area for each Vaccinator was 319 square miles, with a population of 64,153. Eleven more Vaccinators are required—8 for town circles, 1 for a rural circle and 2 for two of the more populous tálukas. Out of 91,269 primary vaccinations and 1,586 revaccinations there were 88,345 or 96·80 and 756 or 47·67 per cent. successful. The protected were 22·40 per mille of population: last year they were 21·27. Each Vaccinator vaccinated 1,498 persons. The total expenditure was Rs. 33,688-14-5, and the average cost per each successful case was annas 6-1, whilst last year it was annas 6-3. In 24 Dispensaries 3,585 persons were primarily vaccinated and 132 were revaccinated. The deaths were 10 against 27 last year.

Surat Collectorate.

196. The Collectorate of Surat has 9 Vaccinators, and 1 more is required for the town of Bulsár. Each Vaccinator had, on an average, a population of 67,454 souls and an area of 176 square miles. The number of persons primarily vaccinated was 13,555, and the successful cases were 13,164 or 97·11 per cent. The number of persons revaccinated was 198, and the successful cases were 70 or 35·36 per cent. Protection was afforded to 21·79 out of every 1,000 of population: last year the rate was 23·70. Each Vaccinator, on an average, operated on 1,528 persons. The total cost was Rs. 2,802-8-10, and the average cost per successful case was annas 3-5, whilst in the preceding year it was annas 3. In 8 Dispensaries 774 persons were primarily vaccinated and 8 were revaccinated. There were 8 deaths, and last year there were 2.

Broach Collectorate.

197. The Collectorate of Broach had 6 Vaccinators. Two additional Vaccinators are wanted for the town of Jambusár and for the Hánsot Petha. Each Vaccinator had, on an average, a population of 58,387 souls and an area of 226 square miles. The primarily vaccinated were 5,549 and the revaccinated were 100. Of these the successful cases were 5,363 and 30 respectively, or 96·65 and 30·00 per cent. The rate of protection per 1,000 was 15·39 against 17·20 last year. Each Vaccinator vaccinated 941 persons, and the average cost per each successful case was annas 5-3 calculated on the total cost of Rs. 1,769-15-6: last year each successful case cost annas 4-6. In 4 Dispensaries 476 persons were primarily vaccinated and none were revaccinated. There was no death, whilst last year there was 1.

Kaira Collectorate.

198. The Kaira Collectorate has 9 Vaccinators, and 5 more are required, 1 in each of the towns of Kaira, Borsad and Kapadvanj and 1 each for the Tálukas of Nadiád and Borsad. Each Vaccinator had, on an average, a population of 86,970 souls and an area of 173

square miles. Out of 16,940 persons primarily vaccinated and 103 revaccinated, 16,377 or 96·67 and 53 or 51·46 per cent. were successfully operated on. The protected were 20·99, and in 1879-80 they were 22·03 per 1,000 of population. Each Vaccinator, on an average, vaccinated 1,894 persons. The total cost amounted to Rs. 2,798-12-11, or annas 2-9 per each successful case: last year it was annas 2-7. In 6 Dispensaries there were 1,286 persons primarily vaccinated and 47 revaccinated. There was 1 death, whilst last year there were 4.

Panch Mahâls.

199. The Panch Mahâls have 5 Vaccinators, and 2 others are required for the towns of Godhra and Dohad. Each Vaccinator had, on an average, a population of 48,149 souls and an area of 346 square miles. There were 5,819 primary vaccinations and 287 revaccinations. Of these the successful were 5,613 and 101, or 96·46 and 35·19 per cent. The rate of protection per mille of population was 23·73, and in the preceding year it was 20·77. Each Vaccinator vaccinated 1,221 persons. The total expenditure was Rs. 1,564-7-0, or annas 4-5 against annas 4-6 in 1879-80. The Medical Officer of Godhra Dispensary primarily vaccinated 275 persons and revaccinated 55. There was only 1 death as last year.

Ahmedabad Collectorate.

200. The Ahmedabad Collectorate has 14 Vaccinators, and one other is still wanted for the town of Gogha. Each Vaccinator had, on an average, a population of 59,260 souls and an area of 275 square miles. There were 21,218 persons primarily vaccinated and 811 revaccinated. The successful cases were 20,503 and 437, or 96·63 and 53·88 per cent. The rate of protection per mille of population was 25·24 against 21·92 in the previous year. Each Vaccinator vaccinated 1,573 persons. The total cost was Rs. 4,103-9-5. The average cost per successful case was annas 3-2: last year it was annas 3-3. In 4 Dispensaries 648 persons were primarily vaccinated and 14 revaccinated. There were no deaths against 19 in the preceding year.

Native States in the Eastern Gujarát Registration District.

201. The States of Mahi Kántha, Rewa Kántha, Cambay, the Surat Agency and Jámbughoda have a collective area of 9,493 square miles and a population of 1,143,028 souls. In Sachín and Jámbughoda States vaccination is performed by the Vaccinator of the Chorási Táluka of the Surat Zilla, and in the latter by the Vaccinator of Hálol, Panch Mahâls. There were 19 Vaccinators employed in all these States, and they primarily vaccinated 27,814 persons and revaccinated 84; of these 26,977 and 62, or 96·99 and 73·81 per cent., were successfully operated on. Protection was afforded to 23·66 per mille of population: last year the rate was 20·15. Each Vaccinator, on an average, operated on 1,468 persons. The Local Fund Vaccinators in Sachín and Jámbughoda vaccinated 374 and 3 persons under each kind of operation; of these 348 or 93·05 and 3 or 100 per cent. were successfully operated on. Protection was afforded to 14·66 per 1,000 of population against 30·91 in the preceding year. The total cost in all the States was Rs. 4,785-9-11, or annas 2-10 against annas 3-1 last year, per each successful case. The Medical Officer of the Sádra Dispensary, in Mahi Kántha States, primarily vaccinated 126 persons and revaccinated 11.

Progress in the Western Gujarát Circle.

202. The Western Gujarát Circle comprises the Native States of Káthiáwár and Pálanpur. It has an area of 26,380 square miles and a population of 2,815,215 souls. It was administered by a Superintendent of Vaccination, who had under him 2 Assistant Superintendents, 2 Clerks, 2 Government and 41 Native State Vaccinators and 49 Peons. The average number of square miles for each Vaccinator was 613, and the average population of his area 65,470. Vaccination was carried on in 9 Dispensaries. The number of primary vaccinations and revaccinations were respectively 74,924 and 3,129 against 64,817 and 3,960 in the preceding year. The successful cases were 68,797 and 2,004, their percentages being 91·82 and 64·05. The rate of protection was 25·15 per 1,000 of population: last year it was 21·84. Each Vaccinator vaccinated 1,815 persons. The total cost was Rs. 29,741-8-6, or annas 6-9 per each successful case. In the preceding year it was annas 8-4. In Dispensaries there were primarily vaccinated 1,899 persons and 100 were revaccinated.

Province of Káthiáwár.

203. The States of Káthiáwár have a collective area of 20,339 square miles and a population of 2,312,629. There were 36 Vaccinators, who primarily vaccinated 60,696 persons and revaccinated 2,232. The successful cases were 55,546 and 1,457, or 91·51 and 65·28 per cent. Protection was afforded to 24·65 per 1,000 of population against 21·08 last year. The average per each Vaccinator was 1,748 operations, and the average cost per each successful case was annas 3-4, calculated on the total cost of Rs. 11,815-4-5: last year the average cost was annas 4-13. In 9 Dispensaries 1,099 persons were primarily vaccinated and 100 revaccinated.

Pálanpur States.

204. The Pálanpur States have an area of 6,041 square miles and a population of 502,586 souls. There were 7 Vaccinators. The number of persons primarily vaccinated was 14,228, and that of the revaccinated was 897. The successful cases were 13,251 and 547, or 93·13 and 60·98 per cent. The rate of protection per mille of population was 27·45 against 25·35 in the preceding year. The average work per each Vaccinator was 2,161 persons. The total cost was Rs. 1,998, or annas 2-4 per each successful case; last year it was annas 2-6.

Progress in the Sind Registration District.

205. The Sind Registration District comprises the Collectorates of Karáchi, Hyderabad and Shikárpur, the Thar and Párkar, the Upper Sind Frontier and the Khairpur State. It has an area of 49,307 square miles and a population of 2,322,765. It was administered by a Deputy Sanitary Commissioner, who had under him 1 Superintendent of Vaccination, 6 Inspectors of Sanitation and Vaccination, 2 Clerks, 7 Municipal, 49 Local Fund and 2 Native State Vaccinators and 66 Peons. Four more are required at the rate of one for each rural circle in the Karáchi Collectorate. Vaccination was carried on in 20 Dispensaries. Each Vaccinator had an area of 850 square miles, with a population of 40,048 souls. Those primarily vaccinated numbered 83,036, and the revaccinated were 38,033, against 77,927 and 36,110 in the preceding year. The successful cases were respectively 79,818 and 28,826. The rates of success were 96·12 and 75·79 per cent., and that of protection was 46·77 per 1,000 of population. It was 44·10 last year. The total cost was Rs. 36,391-15-4, and for each successful case it was annas 5-4, or 6 pies less than last year. There were 2,186 persons primarily vaccinated and 1,847 revaccinated by Medical Officers of 20 Dispensaries. There were 373 deaths against 630 in the previous year.

Karáchi Collectorate.

206. The Karáchi Collectorate has 11 Vaccinators, and 4 more are required, so as to have 1 for each rural circle. Each Vaccinator had, on an average, a population of 38,500 souls and an area of 1,281 square miles. The number primarily vaccinated was 16,523, and the revaccinated were 6,050. The successful cases were respectively 16,033 and 4,533, or 97·03 and 74·93 per cent., whilst 48·56 per 1,000 of population were protected: last year the rate was 48·25. Each Vaccinator vaccinated 2,052 persons. The total cost was Rs. 4,044-5-3, or annas 3-2 per each successful case; in the preceding year it was annas 3-1. In 6 Dispensaries 437 persons were primarily vaccinated and 98 were revaccinated. The deaths were 44 against 60 in the previous year.

Hyderabad Collectorate.

207. The Hyderabad Collectorate has 14 Vaccinators, each of whom had, on an average, a population of 51,568 souls and an area of 647 square miles. There were 20,745 persons primarily vaccinated and 9,198 revaccinated; of these 20,771 or 96·75 and 6,765 or 73·55 per cent. were successfully operated on. The rate of protection per mille of population was 37·17: last year it was 31·45. Each Vaccinator, on an average, vaccinated 2,139 persons. The total cost amounted to Rs. 4,308-8-1, which gives annas 2-7 as the cost per each successful case, or 2 pies less than last year. In 7 Dispensaries 635 persons were primarily vaccinated and 109 were revaccinated. There were 65 deaths against 46 in the preceding year.

Thar and Párkar.

208. The Thar and Párkar had 7 Vaccinators, each of whom had, on an average, a population of 25,823 souls and an area of 1,818 square miles. They primarily vaccinated 8,685

and revaccinated 6,750 persons. The successful cases were 8,469 or 97·51 and 5,728 or 84·86 per cent. The protected were 78·54 per 1,000 against 59·04 in the preceding year. Each Vaccinator, on an average, vaccinated 2,205 persons. The total cost was Rs. 2,029-0-2, or annas 2-3 per successful case: last year it was annas 2-9. In 4 Dispensaries 350 persons were primarily vaccinated and 35 were revaccinated. There were 8 deaths, and last year there were 9.

Shikárpur Collectorate.

209. The Shikárpur Collectorate has 21 Vaccinators, each of whom has, on an average, a population of 36,963 souls and an area of 420 square miles. They primarily vaccinated 30,709 and revaccinated 13,129 persons. The successful cases were 29,284 or 95·36 and 9,626 or 73·32 per cent. The protected were 50·13 per mille of population against 49·46 in the preceding year. Each Vaccinator vaccinated 2,088 persons. The total cost was Rs. 7,026-3-9, or annas 2-11 per each successful case: last year it was annas 2-3. In 2 Dispensaries there were 396 persons primarily vaccinated and 1,579 revaccinated. There were 232 deaths against 421 last year.

Upper Sind Frontier.

210. The Upper Sind Frontier has 3 Vaccinators, each of whom has, on an average, a population of 29,995 souls and an area of 638 square miles. They primarily vaccinated 4,412 persons and revaccinated 2,771. The successful cases were 4,048 and 2,069, or 91·75 and 74·67 per cent. The rate of protection per mille of population was 67·98, and last year it was 88·77. The average number of operations for each Vaccinator was 2,394, and the cost of each successful case was annas 2-7, calculated on the total cost of Rs. 994-14-0. In the preceding year each successful case cost annas 2-3. There were 24 deaths against 94 in 1879-80.

Khairpur State.

211. The Khairpur State has an area of 2,708 square miles and a population of 130,350 souls. It had 2 Vaccinators. They primarily vaccinated 1,962 and revaccinated 78 persons; of these 1,913 and 105, or 97·45 and 77·78 per cent., were successfully vaccinated. The protected were 15·48 per mille of population: last year they were 17·10. Each Vaccinator, on an average, vaccinated 1,048 persons. The total cost was Rs. 858, or annas 6-10 per each successful case against annas 5-8 in 1879-80.

Progress in the Baroda Circle.

212 The States of Baroda have a population of 2,000,225 and an area of 10,767 square miles. It was administered by the Chief Medical Officer of those States, who had under him 3 Inspectors, 31 Vaccinators and 34 Peons. Each Vaccinator has, on an average, 347 square miles and a population of 64,523. There were 52,742 persons primarily vaccinated and 229 revaccinated against 49,105 and 166 in 1879-80. The successful cases were 50,693 and 161, or 96·12 and 70·31 per cent. The rate of protection per mille of population was 23·64: last year it was 21·95. Each Vaccinator vaccinated 1,590 persons. The total cost was Rs. 11,608-7-8, or annas 3-5 per each successful case: in the preceding year it was annas 3·11. Vaccinations were performed in 25 Dispensaries, whilst last year it was carried on in 18 only. In these Dispensaries 3,175 persons were primarily vaccinated and only 1 revaccinated.

Progress in the Cutch Circle.

213. The State of Cutch has a population of 487,305 in an area of 6,500 square miles. It was administered by the Medical Officer to H. H. the Ráo of Cutch, who had under him an Assistant Superintendent of Vaccination, 17 Vaccinators and 16 Peons. Each Vaccinator has an average population of 28,665 and an area of 382 square miles. The number of persons primarily vaccinated was 17,875 and that of the revaccinated was 214, against 15,474 and 1,257 last year. The successful cases were 17,359 and 164, or 97·11 and 76·64 per cent. The rate of protection per mille of population was 35·96: last year it was 29·13. Each Vaccinator operated, on an average, on 1,064 persons. The total expenditure was Rs. 6,874-14-4, and the average cost per each successful case was annas 6-3: in the preceding year it was annas 6-9.

Progress in Aden.

214. Aden has an area of 11 square miles and a population of 19,289. The Municipality defrays the cost of 1 Vaccinator and 1 Peon. This Vaccinator works under the supervision

of the Civil Surgeon. There were 1,095 persons primarily vaccinated and 49 revaccinated against 876 and 22 in the preceding year. Of the primary vaccinations 699, or 63·84 per cent., were successful, and of the revaccinations 29, or 59·18 per cent., were successful. The rate of protection afforded was 37·74 per 1,000 of population: last year it was 40·64. The total cost was Rs. 370, and the average cost per each successful case was annas 8-2; in the preceding year it was annas 7-4.

Progress in Bassadore, Muscat and Zanzibar.

215. In Bassadore the work was carried on by the Dispensary Medical Officer, and in Muscat and Zanzibar by the Civil Surgeons. There were 124 primary vaccinations in Bassadore, and 372 in Muscat, against 58 and 106 in the preceding year. The successful cases were 106, or 85·48 per cent., in the former, and 312, or 83·87 per cent., in the latter, in which there was one male revaccinated unsuccessfully. In Zanzibar there were 237 persons primarily vaccinated and 3 were revaccinated. The successful cases in primary vaccinations were 203 or 65·85 per cent. The revaccinations were all successful. The Vaccination Return from Zanzibar was received for the first time this year. That from the Residency Dispensary, Bushire, was received also for the first time this year, but it came too late to include the 65 cases of primary vaccinations in the general totals for the whole Presidency. These were all Musálman children under 1 year old, of whom 37 were males. Of the 65 cases 34 were successful or 52·31 per cent., 12 were unsuccessful, and 19 escaped observation.

Vaccinations in Bushire.

Tour of Deputy Sanitary Commissioners and Superintendent of Vaccination.

216. (*a*). In the Northern Deccan Registration District the Deputy Sanitary Commissioner went through the Tálukas of Chálisgaon, Bhusával, Amalner, Nasirabad, Virdel, Erandol, Páchora, and Dhulia and the Párola and Bhadgaon Pethas of Khándesh; all the Tálukas of Násik, except Igatpuri and Sinnar; the Párner and Shrigonda Tálukas of Ahmednagar and the Tálukas of Bhimthadi, Indápur and Haveli in Poona. Sholápur was not visited this year. He travelled over 3,189 miles in 144 days, visited 237 villages, and inspected 8,649 children.

(*b*). In the Southern Deccan the Deputy Sanitary Commissioner went through the Táluka of Bidi in Belgaum, and the Tálukas of Dhárwár, Hubli, Bankápur, Ránebennur, Kod and Karajgi in Dhárwár. Sátára and Kaládgi were not visited this year. The only Native State he passed through was Savanúr. The total number of children inspected was 2,096 in 33 villages. The number of miles travelled was 376 in 34 days.

(*c*). The Deputy Sanitary Commissioner of the Konkan Registration District passed through the Tálukas of Kárwár, Kumpta, Akola, Honávar and Siddápur in Kánara; the Tálukas of Málwán, Vengurla and Dápoli in Ratnágiri; and the Tálukas of Sálsette, Bassein and Karjat in Thána. Kolába was not visited this year. He passed through the Native State of Sávantvádi. He inspected 7,973 children in 84 villages. The number of miles travelled was 1,694½ in 75 days.

(*d*). The Deputy Sanitary Commissioner, in the Eastern Gujarát Registration District, went through all the Tálukas of Surat; the Tálukas of Anklesvar and Hánsot and Broach City in Broach; all the Tálukas of Kaira, except Thásra and the Tálukas of Daskroi, Sánand and Viramgám, of Ahmedabad Zilla. He also went through the Native States of Rájpipla, Chota Udepur and Sankheda Mewas in Rewa Kántha; Vátrak Kántha in Mahi Kántha; Sachín under Surat Agency and the Cambay State. The Panch Maháls were not visited this year. He travelled over 2,102 miles in 159 days, and saw 7,084 children in 314 villages.

(*e*). In the Western Gujarát Circle the Superintendent of Vaccination went through all the States except Jhinjhúváda and Dhrángadra in the Jhálávád Prant; the States of Navánagar, Gondal, Dhrol, Dhrápha, Morvi and Rájkot in the Hálár Prant; the State of Jáfarabad in the Sorath Prant and all the States except Kundla in Gohelvád. The States of Pálanpur were not visited this year. He travelled over 690 miles in 73 days, and inspected 8,667 children in 180 villages.

(f). In Sind, the Deputy Sanitary Commissioner went through the Tálukas of the Mirpur Sákro and Karáchi, of the Karáchi Collectorate. He visited Hyderabad, Tando Alahyar, Mirpur Khás and Shahdádpur in the Collectorate of Hyderabad; and Sánghar, Khipra and Umarkot in Thar and Párkar. No travelling was done this year in the Upper Sind Frontier, Shikárpur and Khairpur State. He inspected 8,067 children in 129 villages, and travelled over 575 miles in 35 days. The five Deputy Sanitary Commissioners and the Superintendent of Vaccination have visited all the Districts, except Sholápur, Sátára, Kaládgi, Kolába, Panch Maháls, Shikárpur and the Upper Sind Frontier. The Native States that were not visited this year are Akalkot, Sángli, Jamkhandi, Miraj, Kurundvád, Mudhol, Rámdurg, Sátára Jághírs, Janjira, Jawhár, Dharampur, Bánsda, Jámbughoda, Pálanpur and Khairpur. There were collectively 202 encampments, 520 travelling days, 8,626½ miles travelled, 977 villages visited, and 42,536 children inspected.

A false Vaccinator.

217. The Deputy Sanitary Commissioner, Konkan Registration District, reports that a man, by name Lakshuman Janaji, an inhabitant of Dápoli, Ratnágiri Collectorate, was found by the Mahád Táluka Vaccinator in the Kolába Collectorate, working in two villages of that táluka as a Vaccinator. The case was forwarded to the Mámlatdár of Mahád, who sentenced the man.

The Bombay Vaccination Act No. I. of 1877.

218. The Compulsory Vaccination Act (I. of 1877) has been in force for 3 years, and it is worked fairly well, considering that there were Budget difficulties to contend with up to 30th November 1880, when an increase to the staff of subordinates was sanctioned. There are now 13 Kárkúns on a pay of Rs. 12 each per mensem, and it is due to the exertions of these men that the number of infants brought up to the stations for vaccination has increased. The following table shows the progress in the infants protected during the last five years, the first two being before, and the last three after, the introduction of the Act :—

	Years.	Births returned as having been registered.	Deaths registered among Children under 1 year old.	Children available for Vaccination.		Children under 1 Year Successfully Vaccinated.		
				Births *minus* Deaths.	At the rate of 31 per 1,000 of Population 644,405.	Number.	Ratio per 100 on those in Column 4.	Ratio per 100 on those in Column 5.
Before the introduction of the Act.	1876-77	13,466	6,179	7,287	19,977	9,840	135·03	49·26
	1877-78	13,720	7,781	5,939	19,977	7,212	121·43	36·10
After the introduction of the Act.	1878-79	13,896	6,417	7,479	19,977	6,558	87·69	32·83
	1879-80	14,341	5,274	9,067	19,977	7,825	86·30	39·17
	1880-81	16,997	6,104	10,893	19,977	10,416	95·62	52·14

Karáchi Vaccination Act.

219. This is the first complete year in which the Karáchi Vaccination Act (No. IV. of 1879) has been worked in that city, and it will be seen from the following table that a great improvement has been effected by its introduction in both the quality and the quantity of the work performed, though animal vaccination had to be given up in deference of the prejudices of the Hindus, who have, however, no objection to arm-to-arm vaccination if their caste prejudices are respected :—

Persons Primarily Vaccinated: Caste. Christians.	Hindus.	Musalmans.	Pársis.	Other Castes.	Age. N.=Number. S.=Successful.	Under 1 year.	Between 1 and 6 years.	All other Ages.	Total Number of Persons operated on. P.=Primary Vaccinations. R.=Revaccinations.	Sex. Males.	Females.	Total.	Results. Successful.	Unsuccessful.	Unknown.	Total.	Excess of Operations over Persons.
					For the year 1879-80.												
108	821	1,569	28	54	N. 1,124	1,299	152		P. 1,484	1,091	2,575	2,507	104	20	2,631	56
					S. 1,101	1,265	141		R. 1,079	38	1,117	657	332	138	1,117	..
									2,563	1,129	3,692	3,164	436	158	3,748	56
4·19	31·88	60·93	0·90	2·10	N. 43·65	50·45	5·90		P. 57·63	42·37	100	97·86	1·86	0·78	102·17	2·17
					S. 42·76	49·13	5·47		R. 96·60	3·40	100	58·82	28·83	12·35	100	..
									69·42	30·58	100	85·70	10·02	4·28	101·52	1·52
					For the year 1880-81.												
106	1,001	2,971	61	64	N. 1,928	1,725	550		P. 2,188	2,015	4,203	4,163	83	26	4,272	69
					S. 1,917	1,702	544		R. 1,206	220	1,426	1,014	297	115	1,426	..
									3,394	2,235	5,629	5,177	380	141	5,698	69
2·52	23·82	70·69	1·45	1·52	N. 45·37	41·04	13·09		P. 52·06	47·94	100	99·05	0·33	0·62	101·64	1·64
					S. 45·61	40·50	12·94		R. 84·57	15·43	100	71·11	20·83	8·06	100	..
									60·29	39·71	100	91·97	5·53	2·50	101·23	1·23

Suggestions for the more effectual spread of Vaccination.

220. The Deputy Sanitary Commissioner, Northern Deccan Registration District, has again suggested the extension of the provisions of the Compulsory Vaccination Act to the City of Poona, which has a population of 90,436. Surgeon Channer, the Deputy Sanitary Commissioner, Konkan Registration District, also suggests that compulsory vaccination be enforced in all Municipal Towns, especially in those where there are Dispensaries. He considers it essential that the Inspectors be granted a horse allowance of Rs. 15, as, owing to the rugged character of the district, they cannot thoroughly inspect their zillas on foot during the year.

SECTION IV.

SANITARY WORKS—MILITARY.

This section consists of extracts taken from the Annual Cantonment Reports of the Executive Engineers in charge of Military Stations.

The actual outlay on Sanitary works (Military) during 1880 amounted to Rs. 1,40,691. Of this sum Rs. 61,700 were spent at Aden, of which Rs. 15,673 were for enlarging the Military Prison; Rs. 15,638 for constructing a Recreation room for British Troops at Steamer Point; Rs. 11,480 for constructing two Bungalows Nos. 8 and 9, with out-houses, at Steamer Point; and Rs. 10,261 for laying down pipes in connection with the water-supply. At Ahmedabad Rs. 16,626 were expended, of which Rs. 5,128 were for improvements to the Hospital and Quarter and Rear Guards of Native Infantry Regiments, and Rs. 5,075 for a new Church for the Protestants in Camp. At Mhow Rs. 16,393 were spent, of which Rs. 6,200 were for constructing a verandah at each end of the upper floor of the amalgamated Royal Horse Artillery and European Infantry Hospital. At Purandhar Rs. 13,087 were expended, of which Rs. 6,846 were for a new roof to the Sanitarium Hospital.

The following table shows the total amount spent on Sanitary works (Military) at each station during the year 1880:—

Station.	Actual Outlay.	Station.	Actual Outlay.
	Rs.		Rs.
Poona	1,881	Mhow	16,393
Kirkee	...	Indore	2,519
Ahmednagar	...	Asirgarh	...
Sholápur	...	Mehidpur	...
Málegaon	...	Neemuch	1,718
Sátára	385	Nasirabad	89
Purandhar	13,087	Belgaum	2,357
Ahmedabad	16,626	Dhárwár	1,528
Deesa	1,290	Kolába	7,776
Mount Abu	...	Bombay	...
Baroda	1,718	Devláli	1,837
Rájkot	5,914	Karáchi	21
Bhúj	...	Hyderabad (Sind)... ...	3,852
Surat	...	Jacobabad	...
		Aden	61,700

POONA DIVISION OF THE ARMY.

Stations.—POONA, KIRKEE, AHMEDNAGAR, SHOLA'PUR, MA'LEGAON, SA'TA'RA, PURANDHAR.

POONA.

Major Ducat, R.E., Executive Engineer, Poona and Kirkee, states that the following Sanitary works were undertaken during the year 1880:—

Surface drain from stand-pipe to servants' quarters.

Surface drains of stone and lime have been constructed to carry off waste water from the stand-pipe in front of servants' quarters at the Ghorepuri Hospital; also from lavatory of Hospital Apprentices' quarters.

Estimated cost ... ... Rs. 45
Actual outlay ... ... „ 43

Latrine accommodation for the Native attendants of the Commissariat Cattle Lines, Poona.

Sub-soil drainage is in progress. The old latrines for these people were built of stone and lime masonry without roof. The latrines also were situated in close proximity to the blocks of attendants' huts, which was objectionable.

Three new blocks of latrines (two for males and one for females) have been built at a considerable distance from the huts, and outside the hedge, forming the western boundary of the cattle lines.

These blocks have single-tiled roofs on, and the seats are of cut stone blocks, 18″ × 12″ × 9″, and two galvanized buckets placed between them for depositing solid and liquid excreta separately.

Estimated cost	...	...	...	Rs.	1,797
Actual outlay	...	...	...	„	1,740

Reducing the prickly-pear hedge which stands on the south and east sides of the Soldiers' Garden at Ghorepuri.

The hedge that stands on the south and east sides of the Soldiers' Garden was very thick and high. It was considered objectionable, on sanitary grounds, to allow it to stand in that condition. This has been considerably reduced, keeping only so much in its place as was necessary to keep out stray animals.

Estimated cost	...	...	...	Rs.	98
Actual outlay	...	...	...	„	98

KIRKEE.

Major Ducat, R.E., Executive Engineer, Poona and Kirkee, gives the following information regarding the sanitary work undertaken during the year 1880:—

The only sanitary work undertaken during the year 1880 in the Kirkee Cantonment was the drainage of the Labourers' Lines at the Gunpowder Factory, Kirkee. It is proposed to cut trenches and plant trees in front of the bath-rooms in the Labourers' Lines to absorb sullage water. Work is in progress.

Estimated cost	...	...	...	Rs.	399

Actual outlay—not known; work is in progress.

AHMEDNAGAR.

Mr. W. S. Howard, C.E., Executive Engineer, Ahmednagar, reports that no works, under the head Sanitary, have been carried out during the year 1880.

SHOLA'PUR.

Mr. W. H. White, C.E., Acting Executive Engineer, Poona District and Sholápur, reports that no sanitary works were undertaken during the year 1880.

MA'LEGAON.

Mr. D. Rutherford, C.E., Executive Engineer, Khándesh, remarks that no sanitary work was done during the year 1880.

SA'TA'RA.

The Executive Engineer, Sátára, reports that the following sanitary works were undertaken during the year 1880:—

Covering the Well near the European Infantry Barracks at Sátára.—This well is situated in a compound in rear of the European Infantry Barracks at Sátára, on the Sátára-Pandharpur road, from which drinking water for the troops is obtained, and, being liable to pollution from the dust of the road blowing into the well, the well has been covered with corrugated iron sheeting, with scantlings of well-seasoned teakwood for the sheeting to rest on. Two openings, $2\frac{1}{2} \times 2\frac{1}{2}$, have been left for the purpose of drawing water.

Estimated amount	...	...	...	Rs.	276
Actual cost	...	...	...	„	273

Deepening well in the Commissariat Lines at Sátára.

In order that a better supply of water may be obtained during the dry season, this well has been deepened another 10 feet.

Estimated amount	...	...	...	Rs.	112
Actual cost	...	...	...	„	112

PURANDHAR.

Mr. W. White, C.E., Acting Executive Engineer, Poona District and Sholápur, reports that the following sanitary works were undertaken during the year 1880:—

Constructing six garden benches for use at Purandhar.

Estimated cost	...	...	...	Rs.	78	0	0
Actual expenditure	...	...	...	„	77	9	3

Constructing Slaughter stand and Gallows for the Commissariat Department.—The slaughter stand consists of a floor in the open (15′ × 16′) covered with sand to a depth of one foot, and sloped towards an open masonry drain running along the front and communicating with a cess-pit.

The dressing gallows consists of wooden trestles, connected at the top by a stout wooden bar, 8 feet from the ground, and provided with strong iron hooks for suspending carcasses.

The drains of the slaughter stand and gallows are constructed of chisel-dressed masonry with fine joints.

The cess-pit has a semi-spherical bottom lined with hydraulic cement.

The slaughter stand is enclosed on three sides with corrugated iron secured to a frame-work of wood, the lower foot all round being left open for ventilation.

Estimated cost ...	...	...	Rs.	279 0 0
Actual expenditure	...	...	„	278 13 10

Providing Store-rooms to the Barracks.—Small portions of the verandahs in each of the Barracks have been enclosed for store-rooms.

Estimated cost ...	...	...	Rs.	660 0 0
Actual expenditure	...	...	„	659 12 8

Constructing a Meat-shed for the Commissariat Department.—As there was no meat-shed at this station, animals were slaughtered in the open, and the carcasses subsequently hung up in the Bakery house—a system which is open to objection on sanitary grounds. A meat-shed of the following dimensions has been constructed at the recommendation of the Medical authorities of the station :—Length 13½ feet; breadth 9½ feet.

Estimated cost...	...	...	Rs.	236 0 0
Actual expenditure	...	...	„	235 14 10

A corrugated iron roof has been constructed over a portion of the sheep slaughter-yard.

Estimated cost ...	...	...	Rs.	164 0 0
Actual expenditure	...	...	„	130 9 2

Guard-room or Orderly-room (work in progress).—The building, as designed, contains the following accommodation, *viz.* :—

(1) Guard-room, 45 × 19; (2) Lock-up room, 19 × 19; (3) Orderly-room, 19 × 19, with a verandah 8′ 6″ broad to the outer edge of the plinth in both front and rear. A small bath-room, 9′ × 7′ 3″, is provided in the rear verandah, and a detached latrine, containing 3 seats, will be constructed for the use of the Guard and prisoners.

Estimated cost ...	...	...	Rs.	9,378 0 0
Actual expenditure to the end of December 1880 ...	...	...	„	4,857 9 1

New roof to the Sanitarium Hospital (work in progess)—

Estimated cost ...	...	...	Rs.	14,025 0 0
Actual expenditure to the end of December 1880 ...	...	...	„	6,846 6 11

NORTHERN DIVISION OF THE ARMY.

Stations.—AHMEDABAD, DEESA, MOUNT ABU, BARODA, RA'JKOT, BHU'J, SURAT.

AHMEDABAD.

Major Cruickshank, Executive Engineer, Ahmedabad Division, reports that the following Sanitary works were undertaken during the year 1880 :—

Draining the Camp.—This project was drawn up in consultation with the Senior Medical Officer in charge British Troops at this station. The object is to excavate channels, to carry off the surface water in the rainy season, with masonry barrel drains at the crossings, and to construct a new road from the Church to the Gun-shed, and foot-paths from the banks to the road, and to raise platforms round the barracks and buildings. The following works have been executed in connection with the above scheme.

The road-way has been completed, foot-paths almost completed, 14 barrel drains finished, and remaining ones are in progress.

Raised platforms are half finished. Drains and secondary channels finished.

Estimated cost	...	...	Rs.	6,709
Actual expenditure to 31st December 1880	...		„	3,491

Improvements to the Hospital and Quarter and Rear Guards of Native Infantry Regiments, Ahmedabad.—These consist of making asphalt floors in lieu of the present brick ones, and doors and windows plain planked, to be provided with half glazed and half panelled shutters to the former, and glazed shutters to the latter, in addition to the present ones. Stone coping to be made in the verandah. These have been carried out as estimated for, except in the Guard-room, which is in progress.

Estimated amount	...	...	Rs.	6,786
Actual expenditure to 31st December 1880	...		„	5,128

Providing planked floors in the Magazine in the Native Infantry Lines, Ahmedabad.—The floors of this building, which were originally made of earth, have been provided with teak, as is done in other Magazines.

Estimated cost	...	...	Rs.	196
Actual cost	...	...	„	195

A new Bakery with subsidiary buildings, Ahmedabad.—It consists of bake-house with two ovens, mill-house, lifting and kneading rooms, wheat and floor shed, cook-house, well, office, chaukidár's house, servants' quarters, and bullock-sheds.

The superstructure of the building is raised to a height of 3 feet and well excavated to a depth of 20 feet.

Estimated cost	Rs.	21,013
Actual expenditure during the year ...	„	2,737

A new Church for the Protestants in Camp.—This work commenced in September 1878, was suspended by Government in the December following, and it has been resumed since August 1880.

Estimated cost	Rs.	24,393
Actual outlay during the year	„	5,075
Previous expenditure	„	1,916
Actual outlay to end of December 1880 ...	Rs.	6,991

DEESA.

The Executive Engineer, Military Works and Roads Division, Deesa, reports that the following Sanitary works were undertaken during the year 1880 :—

Improving quarters of Schoolmistress, European Infantry, at Deesa.

The quarters were very low, and consequently very hot in the summer. The walls of the main rooms were raised 4 feet, and each of the two rooms were supplied with ventilators, each 3′ × 2′. Another room, 28½′ × 10½′, was also added. The work was commenced in January 1880, and completed in March 1880.

Estimated cost	Rs.	466
Actual outlay	„	456

Carrying out certain alterations to the Cells, Native Infantry, Deesa.

The cells were defective in ventilation. The roof was, therefore, raised over the 4 centre cells some 4 feet, and each of the rooms was supplied with a ventilator, 3′ × 2′, let into the walls. Work was commenced on 8th May 1880, and completed on 27th July 1880.

Estimated cost...	Rs.	375	0	0
Actual outlay	„	330	0	6

Asphalting floors of Native Cavalry Latrines at Deesa.

The floors being of mud, soak up urine, &c., and can never be properly cleaned, and are, therefore, considered unhealthy. The Deputy Surgeon-General, at his annual inspection, recommended an asphalt floor. This has accordingly been estimated for. The asphalt coat, ½″ thick, to be laid on a concrete bed 3″ thick, and having an outward slope 1 in 12. The work was commenced on 7th May 1880 ; it is now suspended pending fate of Deesa. Concrete floor of 2 latrines completed ; the rest is to be done. Asphalt has been received, but not yet laid on the floor.

Estimated cost	Rs.	468
Actual outlay during the year	„	457

Making surface drains to carry off water from the European Infantry Lines, Deesa.

A requisition for this work was sanctioned by the Brigadier-General Commanding at Deesa in July 1880. The work has been completed.

Estimated cost	Rs.	56	4	0
Actual outlay during the year ...	„	46	14	2

MOUNT ABU.

The Executive Engineer, Military Works and Roads Division, Abu, reports that no Sanitary works have been undertaken during the year 1880.

BARODA.

Mr. Laloobhai Keshowlal, Acting Executive Engineer, Surat and Broach Division, states that the following Sanitary works were carried out at Baroda during the year 1880 :—

Clearing the drains in the vicinity of the Barracks occupied by European Troops at Boroda.

The drains all round the barracks and the main gutter were cleared during the monsoon. The hollows round about the barracks were filled in.

Estimated amount	Rs.	82	0	0
Actual expenditure	„	75	9	10

Making certain additions and alterations to the Cells in the west end of Royal Artillery Quarter Guard at Baroda.

Twelve iron barred circular openings were placed in the walls round the cells, and a number of holes bored in the doors of the cells for free passage of fresh air.

Estimated amount	Rs.	58	0	0
Actual expenditure	„	58	0	5

Improvement to the Store-room attached to the Gun-shed at Baroda.

The tops of walls have been filled up with masonry, and openings over the front walls have been filled up with perforated zinc sheets.

Estimated amount	Rs.	29	0	0
Actual expenditure	„	28	9	5

Improvement to the shed used as Cook-room for Sergeants' Mess at Baroda.

A masonry fire-place, with three chulahs, has been constructed; one planked door and one window have been made.

Estimated amount ...	...	...	Rs.	51	0 0
Actual expenditure ...	...	...	„	48	10 7

Converting Building No. 103 (called a Guard-room for the Arsenal Building at Baroda) into a hanging room for slaughtered meat at Baroda.

This building, converted into a room for hanging meat, measures internally 20′ × 20′ × 9½ feet, and has masonry walls all round with a door in front and a window 2′ × 3′ in each of the three walls, and is covered over by a trussed double-tiled roof.

The following additions and improvements are made:—

1. Four iron-barred and glazed windows, each 3′ × 4′, two in front and two in the rear walls, have been added.
2. Glazed shutters have been provided to the existing windows.
3. Chunam, concrete and asphalt floor substituted in place of earth.
4. Ventilating openings with gauze wire have been provided over all the windows and a door.
5. Beam and hanging hooks, bars, &c., have been provided.

Estimated amount ...	...	...	Rs.	365	0 0
Actual expenditure ...	...	...	„	345	9 10

Adding Store-room to the left Barracks occupied by the British Troops at Baroda.

Eight store-rooms have been provided, one to each of the Barracks A, B, C, D, E, I, F, and G. The interior dimensions of the store-rooms attached to Barracks A, B, C, D, and I is 11′ × 7′, and those of E, F, and G, 11′ × 6′. Each of the rooms is provided with a planked door 3′ × 6′-6″, and a glazed window 2′ × 1′-3″, with iron bars, and fitted up with 20 arm-racks, 20 pegs and shelves.

Estimated amount	...	...	Rs.	1,166	0 0
Actual expenditure	...	...	„	1,161	12 7

RÁJKOT.

The Superintendent of Public Works, Rájkot, reports that the following Sanitary works were undertaken during the year 1880:—

Making alterations and additions to the Rear Guard-room of the Native Infantry Regiment at Rájkot, to enable it to be used as a School-room.

Estimated cost ...	...	...	Rs.	2,450
Actual cost ...	...	...	„	2,450

Constructing a Crawford's rural pattern latrine for the use of the men of the Native Cavalry and Artillery accommodated in the Cavalry Hospital.

Estimated cost ...	...	...	Rs.	413
Actual cost ...	...	...	„	413

Substituted cut black stone floor for moorum in the verandah of the Quarter Guard, Her Majesty's 12th Regiment, Native Infantry.

Estimated cost ...	...	...	Rs.	206
Actual cost ...	...	...	„	197

Rebuilding, in a circular form, well No. 5.

Estimated cost ...	...	...	Rs.	2,549
Actual cost ...	...	...	„	2,549

Constructing 5 iron troughs (Gutter's) with connecting side slopes and end receptacles for carrying off the urine from the latrines used by 12th Regiment, Native Infantry.

Estimated cost ...	...	...	Rs.	305
Actual cost ...	...	...	„	305

BHU'J.

The Superintendent of Public Works at Bhúj reports that no Sanitary works were undertaken during the year 1880.

SURAT.

Mr. Laloobhai Keshowlal, Acting Executive Engineer, Surat and Broach Division, states that no Sanitary works were undertaken during the year 1880.

MHOW DIVISION OF THE ARMY.

Stations.—MHOW, INDORE, ASIRGARH, MEHIDPUR, NEEMUCH. NASIRABAD.

MHOW.

Mr. H. F. White, Executive Engineer, Mhow Division, reports that the following Sanitary works were carried out during the year 1880:—

Constructing a road leading from new Royal Horse Artillery Barracks to amalgamated Hospital, Mhow.

Estimated cost	Rs.	1,752
Actual cost	„	1,863

Constructing open drain to carry out water from wash-houses, amalgamated Hospital, Mhow.

Estimated cost	Rs.	357
Actual cost	„	273

Asphalting the floors of Cavalry Hospital wards, Mhow.

Estimated cost	Rs.	1,662
Actual cost	„	1,528

A latrine erected for use of children attending school, European Infantry Lines, Mhow.

Estimated cost	Rs.	312
Actual cost	„	280

Constructing 2 private ablution rooms for the amalgamated Hospital, in prolongation of the existing wash-houses, at each end of the Hospital, Mhow.

Estimated cost	Rs.	1,732
Actual cost	„	1,505

Constructing a verandah at each end of the upper floor of the amalgamated Royal Horse Artillery and European Infantry Hospital, Mhow, and for enclosing the terrace with a balustrade.

Estimated cost	Rs.	6,616
Actual cost	„	6,200

Constructing masonry drains to certain wells at Mhow.

Estimated cost	Rs.	367
Actual cost	„	347

Draining the Fort ditch at Mhow.

Estimated cost	Rs.	381
Actual cost	„	385

Providing doors and windows and partition walls in openings and passages and end of stair-cases of amalgamated Hospital, Mhow.

Estimated cost	Rs.	978
Actual cost	„	867

Closing (west side) arched openings of Cavalry Hospital, Mhow, with venetian and sliding louvres.

Estimated cost	Rs.	846
Actual cost	„	737

The following works have been undertaken during the year, but not completed :—

Closing (west side) arched openings of upper story of No. 4 European Infantry Barracks with fixed venetians and sliding louvres, Mhow.

Estimated cost	Rs.	1,096
Actual cost	„	636

Constructing a verandah to the windward west side of the upper floor of amalgamated Hospital, Mhow.

Estimated cost	Rs.	4,284
Actual cost	„	476

Requisitional works below 200 each executed during the year 1880.

Draining the ground near European Infantry Barracks at Mhow.

Estimated cost	Rs.	20
Actual cost	„	20

Putting pavement of bricks and chunam in the privy attached to the Commissariat Office to let the filthy water run out, and not to allow it to stagnate and make the place insanitary.

Estimated cost	Rs.	10
Actual cost	„	6

Putting 2 ventilators in the enclosed verandah of the latrines of the amalgamated Hospital, Mhow.

Estimated cost	Rs.	142
Actual cost	„	142

Improving the Bázár Sergeant's quarters at Mhow.

Estimated cost	Rs.	199
Actual cost	„	199

A saucer drain constructed between 2 culverts under main street.

Estimated cost	...	...	...	Rs.	184
Actual cost	...	...	...	„	154

Providing 4" cast-iron pipes, 2½ long, for draining waste water into cess-pool outside wash-houses of the amalgamated Hospital.

Estimated cost	...	...	...	Rs.	28
Actual cost ...	...	...	...	„	4

Trench and earthen bank constructed round the present Commissariat Office, Mhow.

Estimated cost	...	...	...	Rs.	44
Actual cost ...	...	...	...	„	44

Masonry receptacles erected near the grain trough for mixing grain for 17/8 Royal Artillery horses.

Estimated cost	...	...	...	Rs.	73
Actual cost...	...	...	...	„	45

A raised path made from the building occupied by the Ordnance Department Sergeants leading to the main road; also a culvert constructed over the main road.

Estimated cost	...	...	...	Rs.	77
Actual cost...	...	...	...	„	33

Paving drain from culvert on Mhow and Neemuch road, near well No. 14, to the distance of 200 feet.

Estimated cost	...	...	...	Rs.	198
Actual cost...	...	...	...	„	97

Closing partially the openings between the pillars of Ration-shed as a protection from rain.

Estimated cost	...	...	...	Rs.	59
Actual cost...	...	...	...	„	59

Constructing drains for the Native Medical Pupils' quarters, Native Infantry Lines, Mhow.

Estimated cost	...	...	...	Rs.	4
Actual cost...	...	...	...	„	3

Constructing a drain to lead away the waste water which accumulates near well No. 34 in the vicinity of the Fort, Mhow.

Estimated cost	...	...	...	Rs.	34
Actual cost...	...	...	...	„	29

Constructing a water trough, to carry off surplus water, in the 17th Lancers Lines.

Estimated cost	...	...	...	Rs.	23
Actual cost...	...	...	...	„	28

Paving the floor of the privy No. 5 block, Medical Subordinates' quarters, amalgamated Hospital, Mhow.

Estimated cost	...	...	...	Rs.	4
Actual cost ...	...	...	...	„	4

Constructing steps to certain wells used for drinking purposes, Mhow.

Estimated cost	...	...	...	Rs.	99
Actual cost...	...	...	...	„	95

The floor of Orderly-room in 17/8 Royal Artillery renewed.

Estimated cost	...	...	...	Rs.	153
Actual cost...	...	...	...	„	150

Waste water cess-pools in Cavalry Hospital compound to be done away with, and the wash-house water to be taken by open drains to the outside of Hospital compound, Mow.

Estimated cost	...	...	...	Rs.	188
Actual cost...	...	...	...	„	184

INDORE.

Mr. H. F. White, Executive Engineer, Mhow Division, reports that the following Sanitary works were carried out at Indore during the year 1880:—

Constructing a wash-house to the European Infantry Hospital, Indore.

Estimated cost	...	...	...	Rs.	1,802
Actual cost	...	...	...	„	1,808

Constructing a covered passage to the new wash-house for European Infantry Hospital Indore.

Estimated cost	...	...	...	Rs.	671
Actual cost	...	...	...	„	711

ASIRGARH.

The Executive Engineer, Hoshangabad Division, states that no Sanitary works were undertaken du ring the year 1880.

MEHIDPUR.

The Officer Commanding at Mehidpur reports that no Sanitary works were undertaken during the year 1880.

NEEMUCH.

The Executive Engineer, Neemuch Division, reports that the following Sanitary works were undertaken during the year 1880 :—

Latrines have been constructed, during the year, near the Native Cavalry Lines.

Estimated cost	...	...	...	Rs.	1,510	0 0
Actual cost	...	...	...	„	1,446	5 8

Drain to slaughter-yard and cattle-shed has also been improved during the year.

Estimated cost	...	...	...	Rs.	285	0 0
Actual cost	...	...	...	„	271	9 11

NASIRABAD.

The Assistant Engineer, Military Works and Roads Division, Nasirabad, reports that the following Sanitary works were undertaken during the year 1880:—

Paving with flags the back of European Infantry Hospital latrine.

Estimate	...	...	...	Rs.	15
Outlay ...	...	...	...	„	18

Building up 2 curtain walls and lowering privy seats in privy No. $\frac{2}{1}$ on Taragarh.

Estimate	...	...	...	Rs.	37
Outlay ...	...	...	...	„	35

Raising partition wall between European Infantry Latrine and Hospital wash-house at Nasirabad.

Estimate	...	...	...	Rs.	26
Outlay	...	...	...	„	36

Cleaning all road drains throughout the Cantonment. — Partly charged to road repairs and partly done by prison labour.

BELGAUM DISTRICT.

Stations.—Belgaum, Dha'rwa'r.

BELGAUM.

Lieutenant-Colonel Gambier, R.E., Executive Engineer, Belgaum, reports that the following Sanitary works were undertaken during the year 1880 :—

Alterations to the three Royal Artillery Stables at Belgaum.—The dwarf walls, 4½′ high, in rear of the standings of three Royal Artillery stables, have been removed and ramps of moorum supplied for the horses to get in and out.

Estimated cost	...	...	...	Rs.	611
Actual cost	...	...	...	„	611

Improving the ventilation of new Royal Artillery Stables at Belgaum.—One hundred (100) roof ventilators of corrugated iron sheet 2′×2′, painted red, have been provided in the side roofs, one over each standing. Four circular openings, 3′ in diameter, have been pierced in the outer gable walls, arched with stone and lime and filled in with tiled honey-comb work, and four triangular openings have been cut in the partition walls in each of the stables.

Estimated cost	...	...	...	Rs.	317
Actual cost	...	...	...	„	317

Renewing the floors of the new Royal Artillery Stables, Belgaum.—Two courses of pluish between the outer pillars have been removed; all the asphalt standings and all the concrete floors in the stables and Infirmary have been removed and replaced by red moorum well rammed. The whole of the interior walls and outer pillars on the inner side have been white-washed.

Estimated cost	...	...	...	Rs.	770
Actual cost	...	...	...	„	770

Construction of a hot air bath-room for horses at Belgaum.—The boiler house has been converted into a hot air bath-room for horses. It has been lengthened 2 feet by removing and rebuilding the front wall, and an inner wall has been removed. A panelled door has been provided with two panes of glass fixed on the shutters for light, and in order

to read a Thermometer placed inside. Two iron ovens, with smoke and hot air pipes, have been let into the rear wall. And a lean to shed with corrugated iron roof has been built against the rear wall for protection of fuel and attendants who have to fill the ovens from the outside.

Estimated cost	...	...	...	Rs.	553
Actual cost	...	...	...	„	553

Constructing a paved drain from the well near the Arsenal in Fort, Belgaum.—An open drain, 30″ wide, has been constructed with stone and lime to the road-side gutter, from the well near the Arsenal, to convey stagnant water to a cross drain.

Estimated cost	...	...	...	Rs.	71
Actual cost	...	...	...	„	70

Constructing cisterns for holding iron receptacles for the waste water of the Assistant Apothecary's quarters at Belgaum.—Two circular cisterns, 4′ exterior dimensions, have been constructed with stone and lime.

Estimated cost	...	...	...	Rs.	14
Actual cost	...	...	...	„	14

Examining the sub-soil of the floors of single-storied Barracks occupied by the 83rd Regiment, European Infantry.—The paving of a portion of the floor in each of the single-storied barracks have been excavated and removed; the floor has been excavated in the centre of the room down to one foot below the level of the ground outside, in order to ascertain the nature of the filling under the flooring. These pits have been refilled with the same earth, and the paving relaid.

Estimated cost	...	...	...	Rs.	22
Actual cost	...	...	...	„	22

DHA'RWA'R.

Lieutenant-Colonel Goodfellow, R.E., Executive Engineer, Dhárwár, states that the only Sanitary work carried out at Dhárwár in the year 1880 was completing the (half) portion of paving to the Native Infantry Hospital at a cost of Rs. 1,528.

BOMBAY DISTRICT.

Stations.—Cola'ba, Bombay, Devla'li.

COLA'BA.

Lieutenant W. Robinson, R.E., Acting Executive Engineer, Bombay Defences, reports that the following Sanitary works were undertaken during the year 1880:—

Planting trees in the vicinity of the Barracks at Colába.—Certain number of plants at the places selected by the Colába Board of Health have been planted. The distances between each tree, whether in a group or in a line, are varied according to the different localities and the kinds of the trees. Almost completed.

Amount of estimate	...	...	...	Rs.	1,786
Do. expenditure		...	...	„	1,630

Making certain additions and alterations to the water pipes and tanks in the European Infantry Barracks at Colába.—The water-supply has been improved by laying additional service pipes and raising all the tanks supplying water to the cook-rooms and bath-rooms, in order to do away with the employments of certain bhistis, by whose aid alone a sufficient supply of water was obtainable at the places where it is required.

Amount of estimate	...	...	...	Rs.	1,657
Do. expenditure	...	...	...	„	1,567

Armourers' Shop in the British Infantry Lines at Colába.—The present Armourers' shop is a very old and low building (erected some time before 1847), and not according to the standard plan, and considered quite unfit by the Chief Civil Master Armourer, and therefore a new building according to the standard plan (received with G. R. No. 392 M. W.—2117, dated 18th December 1874), but with certain necessary modifications in the verandah roof, is being constructed. The work is in progress.

Amount of estimate	...	...	...	Rs.	8,811
Do. expenditure		...	...	„	...

Making certain additions and alterations to the water pipes and tanks in the Royal Artillery Barracks at Colába.—All the water tanks of the wash-houses have been raised by about 3 feet, so that the water may flow into the upper pipes. New pipes have been laid to the shower-baths in the wash-houses.

Service pipes ½″ have been laid to each bath-room of the married men's quarters, and also to the filters for drinking purposes in each of the Barrack verandahs. The work is completed.

Amount of estimate	...	...	...	Rs.	1,098
Do expenditure	...	...	...	„	1,048

Covering in the Gymnasium at Moreley Hall, Colába.—The Gymnasium is being covered, in order to prevent deterioration of the apparatus from exposure to the sun and rain, and also to admit of its being used at any time of the day and in the rains. The work is in progress.

Amount of estimate	...	...	Rs.	6,886
Do. expenditure	...	...	„	964

Making certain improvements to the drains of the Station Hospital at Colába.—On account of the nature of the ground (black clay soil), the bottoms of all the main drains on the north-west and south of the road in front of the Station Hospital have been pitched with dry rubble.

A thin coating of sea sand has been given to prevent buffaloes, &c., poaching on the upper portion of the side slopes, which are not pitched and in low ground. Completed.

Amount of estimate	...	...	Rs.	198
Do. expenditure	...	...	„	197

Providing ridge ventilation to the bath-room of Station Hospital at Colába.—As there is want of ventilation in the bath-room, a ridge ventilator, 10 feet in length, of Howard's pattern, is being constructed. The work is in progress.

Amount of estimate ...	...	...	Rs.	80
Do. expenditure	...	...	„	...

Addition to the Surgery and Dispensary of Station Hospital, Colába.—The Surgery and Dispensary, 20′-0″ × 19′-10″ × 8′7″, was situated between two wards and badly lighted, and too small for the required purposes. It is being now increased in size, making it 41′-6″ × 19′-10″ and 14 feet in height to the bottom of the tie beams. In order to convert the north and central wards, a covered passage is being provided to prevent the Surgery being a road-way between the two. The work is progressing.

Amount of estimate ...	...	...	Rs.	3,438
Do. expenditure	...	...	„	...

Making certain additions and alterations to the Armourers' Shop in the Lines of H. M.'s 25th Regiment N. I., at Bori Bandar.—The existing Armourers' shop having no browning and drying room, it is proposed to add a room 18′ in length and 13′ 6″ in breadth in internal dimensions on the north side of the workshop, and to divide it by a partition wall into two rooms, 13′-6″ × 11′-10½″ and 13′-6″ × 5′, to be used as browning and drying rooms. The work is in progress.

Amount of estimate ...	...	...	Rs.	1,384
Do. expenditure	...	...	„	„

Constructing new Solitary Cells in the Lines of H. M.'s 25th Regiment N. I. Detail Lines at Bori Bandar.—Three cells, each 10′ × 10′, with an attached privy 4′ × 4′, and an open verandah in front, are being built. The work is in progress.

Amount of estimate ...	...	...	Rs.	2,344
Do. expenditure	...	...	„	932

Seats in the Skittle Alley and around the trees at Colába Depôt.—Teakwood seats with backs, 3 octagonal and 1 semi-octagonal round the trunks of the four large trees on the ground to the east of the Colába Depôt, as also two seats, each 9′ × 1½′, on each of the longitudinal sides of the skittle alley, have been provided. Gravel paths, 4 feet wide, have been made round the four trees. Completed.

Amount of estimate ...	...	...	Rs.	112
Do. expenditure	...	...	„	112

Taking certain borings and examining the conditions of the filling under the flooring of certain Military Buildings at Colába.—The necessary borings were taken. Completed.

Amount of estimate	...	...	Rs.	77
Do. expenditure	...	...	„	30

Rounding off certain deep drops in rear of Nos. 1 and 2 Royal Artillery Barracks at Colába.—There was rubble stone and lime masonry and loose stone wall 4 feet in average height and 380 feet in length, which were pulled down, and the high ground on the Barrack side to the extent of 10 feet rounded off the deep drops in order to prevent accidents.

Amount of estimate	...	...	Rs.	80
Do. expenditure	...	...	„	80

Removing and reconstructing the Markers' butts at Colába.—The Markers' butts of the long and short ranges have been reconstructed at the regulation angle of 55° with a line perpendicular to the stop butts. They have been reduced from 15′ × 6′ × 6¾′ to 9′ × 6′ × 6¾ and improved.

Amount of estimate	...	...	Rs.	416
Do. expenditure	...	...	„	398

Laying on water pipes to the Warrant and Non-Commissioned Officers' quarters, Regimental School and Sergeants' Mess at Colába.—There being now a much better supply of water, water pipes with ½″ brass tap cocks have been laid to 17 quarters.

Amount of estimate	...	...	...	Rs.	822
Do. expenditure	...	...	...	„	818

BOMBAY.

Mr. Muncherji C. Murzban, C.E., Acting Executive Engineer, Presidency, reports that no Sanitary works were undertaken during the year 1880.

DEVLA'LI.

Captain W. Osborn, R.E., Executive Engineer, Násik Division, reports that the following Sanitary works were undertaken at Devláli during the year 1880:—

Constructing a Store for holding and fumigating 100 *men's kit for the use of Hospital at Camp Devláli.*—The building, as proposed, is 44′ × 17′ interior dimensions, having two rooms, one for a store and office, and the other for fumigating purposes; the store-room to be fitted up with 4 tiers of shelves on each side inside the building, capable of holding 100 men's kit, allowing 4′ × 2′ × 1½′ for each man's kit. The fumigating room to have pegs fixed to the walls inside 1′ long and 1′ apart. The work is in progress.

Estimated cost	...	...	...	Rs.	2,455	0	0
Actual outlay	...	...	...	„	694	11	4

Converting old Ambulance shed attached to Male Hospital at Camp Devláli into a Purveyor's Store.—The project provides the following accommodation:—A store for clean linen, 24′-9″ × 12′ interior dimensions, and a store for medical comforts, 10′ × 12′ interior dimension. A verandah 6′ wide is provided on the west side, in order to keep the building free from damp, as the position is very much exposed to the monsoon. A shed, 12′ × 12′ interior dimensions, is also provided for a hearse. The work is in progress.

Estimated cost	...	...	...	Rs.	2,389
Actual outlay	...	...	...	„	...

Making additions and alterations to the Lock Hospital at Camp Devláli.—The original bath-room has been converted into quarters for the Head Matron, and her old quarters in the main building into an examination room.

The north-west corner of the verandah of the building has been enclosed to form a bath-room.

Quarters for the 2nd and 3rd Matrons, respectively, 10′ × 10′ for the former, and 10′ × 8′ for the latter (interior dimensions), have been added in prolongation of the old bath-room and prostitutes' cook-room.

A screen wall, 5′-7½″ in height, is also provided at north-east corner of the prostitutes' cook-room for further privacy of Hospital.

Amount of sanctioned estimate	...	...	...	Rs.	951	0	0
Amount of actual outlay	...	...	...	„	904	6	2

Deepening No. 8 Contonment Well at Camp Devláli.—The well having depth originally of only 38 feet, used to run dry shortly after monsoons, so further deeping of 12 feet through the stratum of rock was recommended. Two good springs of water were met with about 3 feet below the former bottom of the well, and the supply of water is satisfactory.

Amount of sanctioned estimate	...	...	...	Rs.	396	0	0
Amount of actual outlay	...	...	...	„	238	4	3

SIND DISTRICT.

Stations.—KARA'CHI, HYDERABAD, JACOBABAD.

KARA'CHI.

Lieutenant W. J. Lister, R.E., Acting Executive Engineer, Lower and Central Sind, reports that the following Sanitary works were carried out during the year 1880:—

Erection of machines in a shed and construction of engine-house in the Arsenal.

Estimated cost	...	...	...	Rs.	6,878	0	0
Actual cost to date	...	...	...	„	9	3	0

This work is slowly progressing, pending a modification of design for shaft.

Erection of a slaughter-yard and cattle-shed.

Estimated cost	...	...	...	Rs.	13,575	0	0
Outlay to date	...	...	...	„	11	10	0

This work was stopped by a telegram from the Quarter Master General, Poona, on a question concerning the site which has not yet been settled.

HYDERABAD.

Lieutenant W. J. Lister, R.E., Acting Executive Engineer, Lower and Central Sind, reports that the following Sanitary works were carried out at Hyderabad during the year 1880 :—

Improving the drainage from the Lavatories and Cook-houses of the European Barracks at Hyderabad.—Several drains have been lined with brick masonry embedded in concrete, and have been led into the open surface drain to carry off the waste water from the Barracks.

Estimated cost	...	Rs. 2,000
Actual cost	...	„ 2,000

Reroofing Native Infantry Pendalls at Hyderabad.—This work was taken in hand last October, and will be completed by the end of March next—36 pendalls and 12 Native Officers' quarters. Their roofs had to be taken off and to be reroofed with good sound babul beams, resting on wall plates, encased in brick and lime masonry, bhan rafters, punkha and grass mats, a layer of bhan, and plastered over with mud and bhoosa. Roof ventilators provided and water-courses to carry off rain. Buildings are being rewhite-washed.

Estimated cost	...	Rs. 21,025 0 0
Actual expenditure to 31st December 1880.		„ 7,852 1 5

JACOBABAD.

Mr. Pritomdas Pursumul Chadanani, L.C.E., Acting Executive Engineer, Jacobabad, reports that no Sanitary works were carried out during the year 1880.

ADEN.

Lieutenant-Colonel Mathew, R.E., Executive Engineer, Aden, reports that the following Sanitary works were undertaken during the year 1880 :—

Fixing mill stones, &c., in Government Bakery.—An extra pair of mill stones have been fitted and several minor additions and alterations carried out.

Estimated cost	...	Rs. 1,455
Actual expenditure	...	„ 1,429

Laying down 4" flanged pipes in connection with the Water-supply.—Pipes have been laid down from the Seera condenser to the iron tank in the Crater and from the Pier of Obstruction to the Government condenser, Isthmus, in substitution of others, from which there was leakage.

Estimated cost	...	Rs. 10,422
Actual expenditure	...	„ 10,261

Providing additional accommodation to Condensing Engineer's Quarters.—The existing accommodation in the quarters being found very inadequate, an additional room, with bath-room and verandah round three sides, has been provided. The new room is of a semi-permanent character like the building, and is 14′ × 16′ in dimensions.

Estimated cost	...	Rs. 1,698
Actual expenditure	...	„ 1,680

Constructing two Bungalows Nos. 8 and 9, with Out-houses, at Stedmer Point.—These bungalows and their out-houses are of semi-permanent nature. Each building contains three rooms, *viz.* :—

Sitting-room	26′ × 18′
Dining-room	18′ × 18′
Bed-room	18′ × 18′

and a verandah 10′ wide all round, the four corners of which have been partitioned off into bath-rooms, pantry and store-room. A cook-house, stable, and coach-house, with servants quarters, have also been provided.

Estimated cost	...	Rs. 11,506
Actual expenditure	...	„ 11,480

Construction of a Latrine for Lascars, Artificers, &c., of the Arsenal.—A new latrine has been erected in substitution of the old offensive one, semi-permanent in character, on the standard arrangements.

Estimated cost	...	Rs. 637
Actual expenditure	...	„ 636

Enlarging the Military Prison.—A new Guard-room, with lavatory and latrine and a block of 4 cells, have been constructed. An additional cell and store-room and cook-house have been obtained by conversion of the old Guard-room and dead-house, and the latrine and lavatory accommodation have been improved. Character of work—permanent.

Estimated cost	...	Rs. 15,866
Actual expenditure	...	„ 15,673

Adding an Anteroom to the Mess-house for Royal Artillery.—An additional room, with verandah round 3 sides, of a semi-permanent type, similar to the building itself, has been provided.

Estimated cost	...	Rs. 1,509
Actual expenditure	...	„ 1,506

Constructing a Recreation-room for British Troops at Steamer Point (in progress).—A large building to serve as theatre and recreation-room with galleries, dressing and retiring rooms and property room, of a permanent character, is under construction.

Estimated cost	...	Rs. 36,710
Actual expenditure	...	„ 15,638

Erecting two temporary Pendalls for the Followers of British Troops.—Two pendalls, containing accommodation for 11 married and 25 single public followers, have been provided. Each quarter is 10′ × 10′; one married man, or two single men, occupies each quarter.

Estimated cost	...	Rs. 1,047
Actual expenditure	...	„ 1,024

Making certain additions and alterations to Commissariat Stores.—A room for cutting up and hanging meat, with continuous ventilators, has been obtained by conversion.

Estimated cost	...	Rs. 1,090
Actual expenditure	...	„ 1,089

Providing temporary Cook-houses and Latrines for 1/6th Regiment and Royal Artillery during camping period.—These are erected annually, to serve merely during the camping season.

Estimated cost	...	Rs. 557
Actual expenditure	...	„ 555

Constructing a Guard-room above the existing one near the Arsenal Magazine. (In progress).—A new substantial (pucka) Guard-room of the usual dimensions, with verandahs and ample ventilation, is under construction.

Estimated cost	...	Rs. 3,874
Actual expenditure	...	„ 302

Making certain additions and alterations to the Stables and Sick-horse Stables of the Aden Troop. (In progress).—Some minor changes for convenience, drainage, and ventilation, are being carried out.

Estimated cost	...	Rs. 712
Actual expenditure	...	„ 66

Improving the Native Infantry Latrine Crater.—A cement masonry gutter, cess-pit and receptacle, and relaying paving.

Estimated cost	...	Rs. 200
Actual expenditure	...	„ 185

Paving the floors of the Native Infantry Latrine, Perim.—Cement paving on concrete, cess-pit and receptacle.

Estimated cost	...	Rs. 194
Actual expenditure	...	„ 176

SECTION V.

SANITARY WORKS—CIVIL.

It will be seen that this year there is a change in the manner of showing what sanitary works have been carried out in the several districts, and I think the plan now adopted is in every way better than the old one. For each Municipality and Local Funds Circle there are now given the income and the amount expended on conservancy, and then follows a brief account of the conditions with regard to water-supply, drainage, cess-pools, scavengering, latrines, urinals, markets, burial-grounds, cremation ghâts, and new works of the year. The information thus collected will in time enable us to know the exact condition of each place, and its chief requirements.

MUNICIPALITIES.

The following reports show what sanitary works were undertaken by each Municipality during 1879-80 :—

KHA'NDESH.

Municipality.—DHULIA.

Enumerated Population	Males ...	6,533	
	Females...	6,479	
	Total ...	13,012	

	Rs.	a.	p.	
Annual Income	23,582	3	3	
Expenditure on Conservancy ...	4,731	12	0	
	1,418	9	8	Scavengering.
	3,313	2	4	Latrines.

Water-supply.—The River Pánjhra supplies water throughout the year.

The water-course running through the northern portion of the town also supplies water through a great part of the year.

There are a number of wells in the rear of almost every house standing in the south-east part of the town. They supply water throughout the year.

There are twelve public wells. These have not been purposely allowed steps. The water is drawn out.

Drainage.—The plan of draining off the refuse water from the town is under consideration. It is at present carted off.

Cess-pools.—Nil.

Latrines.—There are 560 privies in the town. There are 15 scavengers and 2 mukádams. There are 2 carts kept to cart off night-soil to the south-east of the town. The night-soil is deposited in pits prepared for the purpose. The night-soil thus deposited is covered over with earth, and sold as manure afterwards.

There are 11 public latrines—8 of them are "pucka" built, and the remaining 3 are temporary. Eleven scavengers are employed to clean these privies. The night-soil from these latrines is also removed in the manner above described.

The expense of clearing the private and public latrines is as under—

	Rs.	a.	p.
Private privies	1,968	3	1
Public do.	1,344	15	3
Total ...	3,313	2	4

Scavengering.—The streets are swept by 21 sweepers. The sweepings are thrown by them in dust-bins provided for in different localities, from which they are daily carted off by Kumbhars to burn their brick kilns, in accordance with the contract entered into with them. The cost of the establishment is per annum Rs. 1,418-9-8.

Urinals.—None.

Markets.—The markets are held in the Manik Chauk square. Raised seats, called otas, have been provided for vegetable and grain sellers. The construction of meat market has commenced. The total cost on account of this head was Rs. 707-2-6.

Burial-grounds.—There are burial-grounds as follows:—

1. Near the Civil Hospital.
2. Near the junction of the Málegaon and Chálisgaon road.
3. On the bank of the River Pánjhra.
4. In Deopur, in Survey No. 50, near the Devi's temple.
5. Roman Catholic burial-ground near the wood market.
6. Protestant Christian burial-ground near the Treasury.

Cremation places.—Brahmins and other high-caste Hindus burn their dead at Deopur on the bank of the Pánjhra River.

	Rs.	a.	p.
New Works.—Kerbing and constructing new roads.	2,316	3	2
Planting trees	235	5	1
Dust-bins	36	1	1
Otas, or raised seats, in the bázár or market for vegetable and grain sellers	603	10	10
Dharmshála in Deopur	354	5	4
Temporary public latrines	163	0	11

NARAYEN BHIKAJI,
Huzúr Deputy Collector and Chairman, Municipality, Dhulia.

Municipality.—SONGI'R.

Enumerated Population	Males ...	2,105
	Females ...	1,998
	Total ...	4103

	Rs.	a.	p.
Income during 1879-80...	2,072	1	4
Expenditure on Conservancy	396	0	0

Water-supply.—There is a very good large Municipal well from which almost all the town obtain their water. There are, in addition, 5 large and 2 small public wells and also 22 small private wells.

There is a tank above the well which, as a rule, holds water for most of the year, and it keeps the well full.

Cattle drink at a "hab" close to the well and filled from it, and in the tank, as long as there is water in it.

People wash, as a rule, either round the well—there is a platform built for the purpose sloping outwards—or at a nála, a mile or so north of Songír.

Drainage.—The road from the town to the well has had pucka gutters constructed as have some of the streets; no general scheme of drainage is possible for such a small town.

Cess-pools.—There are no public cess-pools; the private ones are cleaned by the owners, but the Municipality see that they keep them clean.

Scavengering.—Five scavengers are kept up, who remove all filth outside the town; there is no market for it; any one who will take it away is allowed to do so.

Urinals and Latrines.—There are none.

Markets.—It is under contemplation to have raised plinths raised in the public market.

Burial-grounds.—Four are round the town containing about 5 acres.

Cremation.—Bodies are burnt about half a mile from the town on the north.

There are no records of the number of persons burnt or buried.

New Works.—None.

Municipality.—NANDURBA'R.

Enumerated Population	Males	3,301
	Females	3,402
	Total...	6,703

	Rs.	a.	p.
Income for the year 1879-80	4,188	12	6
Conservancy and Sanitation expenditure ...	1,990	10	3

Water-supply.—There are 67 public wells and 43 private ones; but there is constantly a deficiency of water.

There is a large tank to the south of the town, and 2 or 3 to the north; as long as these contain water, and the big tank in good year contains water till June, cattle drink there; when the water fails, then they drink at the Kamgaon nála, 2 miles west of the town.

People wash in a small nála near the town as long as there is water there, and there is from July till April or May every year, and in the big tank; afterwards they have to go to the distant nála at Kamgaon.

A good water scheme is very necessary for Nandurbár; but every proposal is expensive, and the town not being in a flourishing condition, cannot afford any large expenditure, and it is exceedingly difficult to remedy matters.

Drainage.—The two main streets from east to west and north to south have got pucka gutters built, though they are in places out of order. In addition there are kucha gutters in other places.

Cess-pools.—There are no cess-pools.

Scavengering.—An establishment of 4 carts and 8 bhangis is kept up, which remove all filth outside the town and place it in suitable places. It is then offered for sale; but there being no irrigation near, the sweepings are only bought by the Kumbars.

Four suitable places are fixed outside, where people throw their rubbish.

Latrines and Urinals.—There are none. Private privies are cleaned by the owners.

Markets.—There are no market buildings, the bázár being held on the ground in the ordinary way.

Burial-grounds.—On the south and west from near the town along the base of the hill burials take place. The burying grounds are scattered all along the side of the hill.

Cremation.—This takes place on the nála about a mile west of the town.

There are no particulars obtainable as to the numbers of bodies burnt or buried.

New Works.—None.

Municipality.—TALODA.

Enumerated Population...	Males.	... 2,370
	Females	... 2,353
	Total	... 4,723

	Rs.	a.	p.
The Income for 1879-80	... 2,968	10	10

The expenditure for conservancy is as follows :—

Conservancy proper	... 536	6	6
Planting Trees	... 16	11	0
Total...	553	1	6

Water-supply.—A large public well is just being completed.

There are 119 private wells in the town.

There is no particular scarcity of water, and, except wells, no means of increasing the supply. Cattle drink at the hals at 3 of the large wells belonging to the Jághírdár; people wash outside the wells or in their houses, and clothes are washed by washermen in the Tápti, 3 miles off.

Drainage.—Three roads have pucka gutters constructed on both sides, and in 2 others there are gutters in places.

Scavengering.—A cart and 4 bhangis were kept up during the year, who kept the town clean; refuse are carried out by the people and thrown in a place fixed outside; a fair amount is received for the sale of this refuse. There are no cess-pools.

Latrines and Urinals.—There are no latrines and urinals.

Markets.—There are no market buildings.

Burial-grounds.—There are 4, on all sides of the town, containing about 2 acres.

Cremation.—This is carried on on the Tápti, 3 miles south of the town.

There are no records of the numbers of bodies burnt and of the numbers of burials.

New Works.—None were carried out in the year.

Municipality.—SHA'HA'DA.

Enumerated Population	Males	... 2,540
	Females	... 2,604
	Total	... 5,144

	Rs.	a.	p.
The Income for 1879-80 was	... 3,243	10	10

The expenditure for conservancy was as follows :—

Conservancy proper	... 1,162	1	0
Tree-planting	... 47	6	7
Total	... 1,209	7	7

Water-supply.—The River Gomai passes along the west side of the village and the town; all get their water from there. The stream, which is a rapid one, is clear and good, though there is a village half a mile above the town. There are, in addition, 1 public and 66 private wells. People wash in the river opposite the town, and, of course, cattle drink there.

Drainage.—One large road and 3 small roads are furnished with gutters.

Cess-pools.—There are none.

Scavengering.—An establishment consisting of 1 Inspector, 9 bhangis and 2 carts is kept up. There are 8 dust-bins. The usual arrangement for cleaning the streets and refuse are carried out, and 120 rupees was received from the sale in the year under question.

Latrines and Urinals.—There are none.

Markets.—Three otás were formerly constructed, but they were unpopular and are not used, and have fallen out of repair.

Burial-grounds.—On the north of town one, and south of Kukreil one. The number of burials was about 106.

Cremation.—Bodies are burnt about a mile above Sháháda on the bank of the river and 400 yards below Kukreil. Thirty-three bodies were burnt.

New Works.—There were none carried out in the year.

Municipality.—PRAKA'SHA.

Enumerated Population	Males ...	1,923
	Females ...	1,911
	Total ...	3,834

	Rs.	a.	p.
Income during 1879-80	1,569	11	0

Expenditure on conservancy is as follows :—

Removing rubbish	197	4	2
Bhangi establishment and Inspector	411	14	6
Tree-planting	16	12	6
Watering roads	2	0	3
Total ...	627	15	5

Water-supply.—Situated at the junction of the Girna and Tápti, there is no difficulty about water : the former is a rapid stream, and the water is particularly good; the Municipality have diverted its course to run close to the town through the sandy bed of the Tápti. There are, in addition, 2 public and 41 private wells. Washing is carried on in the rivers; the Tápti is at present 200 yards broad (now in April), and cattle, of course, drink there.

Drainage.—The 3 large roads and 4 small ones are furnished with pucka gutters; the remaining 50 are not.

Cess-pools.—There are no cess-pools.

Scavengering.—An establishment consisting of 1 Inspector and 6 scavengers and a cart is kept up for removing rubbish and filth from the town.

The street sweepings are sold, but produce practically nothing, there being no irrigated land near.

There are 15 dust-bins.

Urinals and Latrines.—There are none.

Burial-grounds.—These are situated all round the town in 6 or 7 places. There were 54 burials in the year.

Cremation Ghâts.—About a mile below the town on the Tápti cremation takes place in 3 places. Twenty-six bodies were burnt in the year.

New Works.—Gutters were constructed along a *road.*

J. DAVIDSON,
Second Assistant Collector.

Municipality.—SINDKHEDA.

Enumerated Population	Males ...	2,220
	Females ...	2,281
	Total ...	4,501

	Rs.	a.	p.
Income	1,874	10	6
Expenditure on Conservancy	372	3	0

Water-supply.—Five step wells, 97 wells without steps, one cattle trough.

Buráy River fails in hot weather. There are 3 "shewadis" (wells in the bed of the river) cleaned out annually, in which washing, bathing, &c., are prohibited. Drinking water is drawn above the town; bathing, washing, &c., are carried on below, so long as the water lasts. The nearest village down-stream is about one mile distant.

Drainage.—Ordinary gutters carry off water, &c., to a built drain emptying into the river below the town.

Cess-pools.—Some private houses have receptacles for dirty water, &c., which the owners look after.

Scavengering.—Five sweepers. Sweepings are collected in dust-bins; are sold yearly by auction for manure, producing from Rs. 50 to 55.

Latrines.—No public ones; a few private ones, attended to by the owners.

Urinals.—None.

Markets.— None built.

Burial-grounds.—One for Hindu and one for Musalmáns. Areas unascertained. Number of bodies buried during the year not known.

Cremation Ghâts.—Bodies are burnt at two places—one above and one below the town; each ¼ mile off. There is no record of the number of bodies burnt during the year.

New Works.—Pavement (21 feet by 20) from Dharmshála to river. Small road repairs.

Municipality—BETA'VAD.

Enumerated Population	Males ...	1,615
	Females ...	1,481
	Total ...	3,096

	Rs.	a.	p.
Annual Income	1,239	6	3
Expenditure on Conservancy	267	7	6

Water-supply.—Two step wells; 101 wells without steps.

Pánjhra River; drinking water taken above, bathing, &c., carried on below the town. When river fails, wells are dug in its bed. An irrigation canal (unfailing) supplies water for washing, &c.

The next village down-stream is about 2 miles off.

Drainage.—In main streets and 3 side streets open side drains of masonry; one masonry drain carries water to river.

Cess-pools.—A few private houses have receptacles for dirty water, &c., looked after by the owners.

Scavengering.—Four sweepers. Sweepings collected in dust-bins and sold for manure; realized this year Rs. 54-14-0.

Latrines.—No public ones. A few private ones, attended to by owners.

Urinals.—None.

Markets.—None built.

Burial-grounds.—Three. There were 20 bodies buried during the year.

Cremation Ghâts.—Two. East and west of the town. There were 51 bodies burnt during the year.

New Works.—Three hundred and twenty-seven feet of street side drains of masonry; 350 feet of masonry main drain.

Municipality.—SHIRPUR.

Enumerated Population	Males ...	2,919
	Females ...	2,848
	Total ...	5,767

	Rs.	a.	p.
Income	... 4,203	0	9
Expenditure on Conservancy	... 2,158	2	1

Water-supply.—Two step wells; 40 public wells without steps; 6 of them are for lower castes. There are also 123 private wells.

Three cattle troughs. Árunávati River. Drinking water is drawn above the town; bathing, washing, &c., is carried on below.

Drainage.—In 5 main streets open side drains of masonry; in the side streets there are mere cuttings.

Cess-pools.—There are 71 cess-pools of various sizes—of brick and lime masonry. They are cleaned out periodically by the Municipality.

Scavengering.—One mukádam; 10 sweepers. Sweepings are collected in dust-bins and sold by contract to brick-makers, who use them in burning bricks. Realized this year Rs. 50.

Latrines.—No public ones. Twenty-eight private ones, attended to by the owners.

Urinals.—None.

Markets.—None built.

Burial-grounds.—Three. East, west, and south of the town. There were 71 bodies buried during the year.

Cremation Ghâts.—One. South of the town. There were 57 bodies burnt during the year.

New Works.—Two pavements—one 140 feet, and the other 75 feet. One Dhaka 60 feet, and 4 dust-bins of brick and lime masonry.

Municipality.—CHOPDA.

Enumerated Population	Males ...	6,953
	Females ...	6,746
	Total ...	13,699

	Rs.	a.	p.
Annual Income	3,853	12	8
Expenditure on Conservancy	... 1,697	12	0

Water-supply.—Two step wells; 20 wells without steps; 3 cattle troughs; kept clean by Municipality. No river or tanks.

Drainage.—In main streets open side drains of masonry; mere cuttings elsewhere.

Cess-pools.—About 300 houses have small receptacles for their refuse water, &c., attended to by owners.

Scavengering.—One mukádam; 7 sweepers. The sweepings are removed by a contractor, who makes what he can by them.

Latrines.—No public; a few private ones; not attended to by Municipality.

Urinals.—None.

Markets.—Raised open sitting places (otas) exist, and are kept in repair by Municipality.

Burial-grounds.—Four. Not measured. There were 47 bodies buried during the year.

Cremation Ghâts.—Four. There were 117 bodies burnt during the year.

New Works.—One hundred and thirty-eight yards of open side drains of masonry. New Dispensary house is under construction.

Streets are lighted, and watered in hot weather.

R. A. LAMB,
Assistant Collector.

Municipalities.—AMALNER, PA'ROLA, ERANDOL, BHADGAON, DHARANGAON AND MA'HEJI.

Population.

Amalner	7,564
Párola	12,235
Erandol	11,071
Dharangaon	11,087
Bhadgaon	6,153
Máheji	2,151

Annual Income.

	Rs. a. p.
Amalner	2,690 8 6
Párola	6,980 12 11
Erandol	3,606 13 0
Dharangaon	4,657 13 10
Bhadgaon	1,665 12 10
Máheji	1,110 0 0

Expenditure on Conservancy.

	Máheji.	Amalner.	Párola.	Erandol.	Dharangaon.	Bhadgaon.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Watering roads	187 5 10	.....	.....	.....	.....	.....
Conservancy carts	46 9 5	.....	.....	320 0 0	.....	180 13 11
Sweeping establishment	142 10 6	480 0 0	809 6 2	1,107 15 6	1,256 8 9	406 0 3
Dust-bins, new	.....	25 8 0	206 7 6	.....	183 11 4	.....
Drains, new..	.....	102 9 3	146 1 9	.....	51 3 0	317 13 3
Fencing for land set apart for latrines	.....	63 2 9	.....	0 8 9	...	.....
Cleaning gutters	.....	.....	116 8 3	75 8 10	21 11 3	.....
Dispensary contribution	124 6 10	.....	686 12 9	396 0 0	.....	300 0 0
Temporary latrines	.....	.....	81 9 0	.....	.....	.....
Repairs to drains	.....	.....	378 12 9	8 9 3	27 3 0	.....
Do. dust-bins	.....	.....	105 0 0	.....	.....	.. ...
Bringing water by channel from the Shiwla Nála into town tank	... ..	... ..	2,457 5 6	.....	.. ...	.....
Establishment to prevent nuisance	56 6 5	.....	.....	... ..	.....	... ..
Total ...	557 7 0	671 4 0	4,987 15 8	1,908 10 4	1,540 5 4	1,204 11 5

Water-supply.—The supply is chiefly derived from wells and rivers. The number of wells in the different towns are as under :—

	Wells with steps.	Wells without steps.
Amalner	0	... 4
Párola	7	... 75
Erandol	2	... 53
Dharangaon	5	... 11
Bhadgaon	0	... 0
Máheji	0	... 2

At Bhadgaon and Máheji the water of the River Girna is used; at Párola there is a large tank surrounding the Kacheri walls. As long as water lasts in this tank the supply in the different wells situated in the town is not exhausted; otherwise they all dry up. To prevent a scarcity of water a sum of Rs. 2,457-5-6 was expended for bringing water by digging a channel from the Shiwla Nála into this tank. It is believed that this work will ensure a perennial supply for the town. At Erandol and Amalner the river water is also used for drinking purposes. There are separate wells for low-caste people in all the towns.

Drainage.—In the main streets in some places there are open side drains of masonry. In others and in the side streets there are mere cuttings. This is not, however, universal in all places.

Cess-pools.—None.

Scavengering.—The scavengering is done by bhangis. There were 2 carts in Erandol and 2 at Dharangaon. There the sweepings are taken outside the towns and put in large holes dug for the purpose. In the month of June or thereabouts every year such sweepings are sold to the cultivator by public auction, who use them as manure into their fields. In the other towns the bhangis take the sweepings to the dust-bins, from which it is removed by a farmer, who, in turn, sells it to the cultivators, and pays the Municipality whatever amount which is previously agreed upon.

Latrines.—There are no pucka built latrines in any of the Municipal towns. At Amalner, Párola, Erandol and Dharangaon, certain fields outside the town have been taken up by the Municipalities. They are fenced in, and people resort to these places to obey the calls of nature. There are a very limited number of private privies in the several towns, which are cleaned by the bhangis at the private expense of the owners. At Máheji temporary sheds are erected during the time the Fair lasts for this purpose.

Urinals.—None.

Markets.—None, except at Párola and Máheji, where otas are provided for, but without any sheds or shelter.

Burial and Burning Grounds.—All these are situated outside, and at a distance from the town, and separate places for burning the dead have been set apart.

New Works.—*Vide* the items under the head of Conservancy.

ARDESIR JAMSEDJI,

Acting District Deputy Collector, and

Vice-President, Municipalities, Southern Division, Khándesh.

NA'SIK.

Municipality—NA'SIK.

Population	Males ...	11,771
	Females...	10,665
	Total ...	22,436

	Rs.	a.	p.	
Annual Income about...	40,000	0	0	
Expenditure on Conservancy during 1879-80 ...	18,748	9	1.	This includes vaccination charges, medicines, as well as expenditure on road-cleaning and scavenging.

Water-supply.—The Godávari is the main source of the water-supply of the inhabitants; but those living in the southern part of the town, and therefore some considerable distance from the river, use wells, of which there are a lot, and also a fountain called the Howd, which is supplied with water from the River Naserdi by means of a subterranean aqueduct. This aqueduct was constructed by one Dhondo Mahadev, Subhedár under the Peshwa's Government. The water is conveyed from a point in the river about two miles west of the town, part of it is used to irrigate some extensive gardens in that quarter of the town, and the surplus flows into the Howd, which was built by the same Dhondo to supply water gratuitously to the people.

During the dry season, when fresh water is much needed, this supply of water hardly suffices for the garden, and the people are deprived of it to a considerable extent. It was in contemplation by the Municipality to purchase the whole property connected with this water-supply; but as the land has been mortgaged, no reasonable terms could be agreed on. The people still suffer great inconvenience from scarcity of water, and are at the mercy of the landholders; they are, therefore, obliged to depend during the hot weather on the supply obtained from wells.

The chief source of supply is, however, the River Godávari, in the bed of which a number of masonry tanks or "Koonds" have been constructed. Certain koonds are set apart for drinking purposes; the rest for bathing and washing. The Municipality entertains the services of some temporary peons, for about 8 months every year, to look after the water-supply and prevent the pollution of that set apart for drinking. During the hot season the flow of water in the river is very small, and these koonds are but scantily supplied with fresh water, and the water in them becomes in consequence dirty and unwholesome. Wells in private houses are then made use of, or water is conveyed from the river at a point further west, where there is always a large supply. For many reasons, however, a better system of supplying water to the town is necessary; but the cost of all the proposed schemes has been hitherto prohibitive, and they have had for the present to be abandoned.

Drainage.—The drainage of the town is very defective, and the difficulties in the way of a proper system are very great. The town is situated on both banks of the River Godávari, which, as stated above, is the main water-supply of the inhabitants. The trend of the ground being towards the river, all drainage naturally tends to flow in that direction, and, without the erection of expensive pumping stations, it would be impossible to convey the drainage of the greater part of the town anywhere but into the river. At present there is only one large drain in the town with a proper outlet, though it appears that several other drains have been half constructed and then abandoned. The main drain, which is several feet below ground, is efficient so far as it goes; it is connected with nearly all the houses in the quarter it traverses, but there are only one or two subsidiary drains in connection with it. It debouches into the Godávari about the centre of the town; but, in order to prevent the nuisance and danger which would arise from allowing the foul water to flow into the river at this point, the drain is still continued along the south bank of the river for about quarter of a mile further. During its course along the side of the river some of the contents of the drain percolate through the sides in one or two places; but, on the whole, the separation between the river and the drain is fairly complete.

While there is plenty of water in the river the drain is allowed to discharge its contents directly into the water; but as the river water immediately below this point is not much used, the nuisance is not so great as it otherwise would be. During the hot weather, while the river is low, the contents of the drain are carried across in iron pipes and discharged into an open trench cut in the sand for about 200 yards, and the sewerage finally sinks into the river bed some considerable distance below the town. The system of drainage is very objectionable, and has been often condemned; a remedy, however, is difficult, but the Municipality intends to grapple in earnest with the problem so soon as funds will allow of it. The drain and its connections are cleaned out periodically by the Health Department staff.

All the main roads of the town are furnished with side gutters; but they are only for rain water, and there are strict orders against letting any foul water enter them.

Scavengering.—The system of scavenging and road-cleaning in force in the Municipality will be best understood from a perusal of the Health Superintendent's letter on this subject, copy of which is appended :—

SIR,—In reply to your No. 163, dated 6th instant, I beg to submit a statement of the information asked for.

Street Sweepings and Garbage.

1. There are 8 carts for removal of garbage and sweepings, and the town being divided into four sections, viz., Aditwar, Cusba, Kajipura and Punchvattee, we have a depôt for streot sweepings in each section.

2. This is done daily from the dust-bins in the several streets of section.

3. The garbage, as also portion of street sweepings, from dust-bins, in section nearest the depôt, is conveyed to the night-soil depôt.

4. The accompanying list will show cost and strength of scavenging department. Each cart-man has a woman and two baskets, while one basket is being conveyed from the dust-bin, the other is being filled by the cart-man, so that a cart is quickly filled.

5. The garbage taken to the night-soil depôt is burned there.

Night-soil.—We clear nightly 1,373 private privies and 21 public latrines, the contents of which is nightly conveyed to the night-soil depôt by three carts, making eight trips during the night, and deposited upon a level piece of cleaned ground laid out in squares, which is covered with sifted ashes or earth to a depth of 4 or 5 inches, and a couple of men provided with rakes proceed to mix together the ashes and night-soil. Besides complete amalgamation, the object of the mixing process is to dry the manure as much as possible; but when the mixing is done, the stuff is stiff and damp, and the dessication is completed by exposure to the sun. The proportion of ashes to night-soil used in this process is about half and half; after the dessication is complete, the stuff is removed to an exposed heap close by, and it is then considered fit for use as a manure. The resulting manure must possess valuable properties as a fertilise, as is bought up readily by the Kunbis.

There is nothing in the process of manufacture half so disgusting as the emptying of a cess-pit or the cleaning of a foul privy.

The cultivators of Násik and its vicinity use it for all kinds of monsoon crop.

The night-soil depôt is to the south, eastwards of the town, and about 300 yards from the nearest dwellings, the whole area being only 4 or 5 acres.

During the monsoon the manufacture of poudrette is conducted in a large open shed on the ground without difficulty.

The sweepings from sections nearest the depôt are deposited on the surface of the ground in heaps, and here they are burnt. After the combustion is complete, the ashes are removed to some ground close by, and piled in a heap ready for use. The public latrines have iron receptacles, which are emptied in the night-soil carts nightly. Each latrine has 12 iron receptacles, and the work is done by two men, after cleaning their allotted number of private privies in the town. Each halálkhor has to clean some 28 private privies as well as 6 recep-

tacles in public latrines. Considering the large population of this town and the great number of pilgrims visiting Ganga River, and the Játras and some 20 miles of road to clean, our staff is exceedingly small and too hard worked.

After retaining sufficient stock of street sweeping for ashes, we sell the remainder to Kunbis and Kumbars, 4 to 6 annas per cart-load.

Poudrette.—We sell all we make at 4 annas per cart.

Establishment of Health Department, Násik Municipality.

No.		Salary.	Remarks.
		Rs.	
1	Health Superintendent... ...	125	
1	Clerk	20	
1	Inspector	15	
1	Sub-Inspector	12	
8	Mukádams	8	
1	Office Peon	7	
1	Carpenter	15	
1	Mason	15	
16	Road Sweepers	7	Including cart-drivers.
14	Do.	6	
2	Do.	5	
15	Do. women	4	
26	Do. do.	3	
7	Halálkhors...	10	
38	Do.	8	
3	Do.	7	
6	Do.	6	
20	Do.	5	
1	Bhisti	8	Supplying water to latrines, and removing urine.
8	Lamp-lighters	8	
23	Bullocks	...	

(Signed) JOHN DWYER,
Health Superintendent.

There are a good many urinals in different parts of the town, which are regularly looked after by the Municipality, and flushed daily with clean water, while a disinfecting powder is constantly strewn about them.

Markets.—There are no public or private built markets in the town. A market is held every morning on the river side for the sale of vegetables, &c., and during the monsoon an open square in the town is resorted to; a general market for sale of grain and miscellaneous goods is held twice a week—on Wednesdays and Saturdays.

Recently a meat market has been constructed by the Municipality, and is just now completed, but it has not been opened yet.

Burial-grounds.—These are very numerous in different parts of the town, every caste nearly having one or two, and there are numbers of private burial-grounds quite close. The attention of the Municipality has been directed to this subject, and some of the most objectionable of the grounds have been closed. Those now in use are all on the outskirts of the town, and care is taken to prevent any nuisance occurring.

The cremation ghát is on the north bank of the river below the town and sufficiently distant from inhabited houses.

New Sanitary Works.—The only new works carried out during the year were the construction of dust-bins, repairs to latrines, drains and other conservancy; measures were carried out and constant attention is paid by the Municipality to the sanitary condition of the town and of all public buildings.

H. F. SILCOCK,
Vice-President.

Municipality—MA'LEGAON.

Enumerated Population	Males ...	5,278
	Females ...	5,346
	Total ...	10,624

	Rs.
Annual Income	8,850
Expenditure on Conservancy	3,450

Water-supply.—There are 84 private wells, out of which 76 are inside houses and 8 are outside: water from them is used for domestic purposes. Out of 6 public wells 2 are with steps, water from which is used for domestic purposes. The low-caste people use the river water for drinking and washing purposes.

The River Mosam affords a permanent supply of water for drinking and washing purposes in the hot weather; a temporary dam has hitherto been thrown across the river, and a peon maintained to keep the drinking water from being contaminated.

Drainage.—In the 9 main streets there are open side drains of masonry, and in other main streets and side streets there are mere cuttings.

Cess-pools.—There are 30 cess-pools for filthy water—14 of brick and lime masonry, and the rest are built by private persons by putting jars in the earth. They are cleaned out by the Municipality: 3 carts and 4 men are employed for cleaning them.

Scavengering.—There is 1 inspector, 1 mukádam, 11 coolies, 3 carts and 14 dust-bins. The sweepings are taken to a depôt outside the town, where it is sold annually for 300 or 400 rupees. The Municipality has its own 3 carts and 6 bullocks on this work.

Latrines.—There is one public latrine, having 12 seats, used by women, and 190 private latrines. Besides that, the Municipality have acquired 4 pieces of land for natural purposes. The private and public latrines and the 4 pieces are kept clean by Municipality by 9 sweepers. Night-soil is collected in one of the 4 pieces of land.

Urinals.—None.

Markets.—None.

Burial-grounds.—There are 4 different burial-grounds outside the town.

Cremation Ghâts.—The place is out of the town on the bank of the river, 250 paces from the town; during the year there were 243 deaths.

New Works—A Dispensary has been built, and is maintained by the Municipality and Local Funds.

C. E. FROST,
First Assistant Collector and Vice-President.

Municipality—SINNAR.

Enumerated Population	Males	...5,132
	Females	...4,912
	Total	...10,044

	Rs.	a.	p.
Annual Income about	... 1,400	0	0
Expenditure on Conservancy during 1879-80	... 599	11	1

Water-supply.—The chief sources of water-supply are the Sarasvati and Shev Rivers, which are on the west of the town, and unite about 200 yards south-east of the Sangamner gate. The water of both is good; but the Sarasvati only flows for about 8 months of the year, and the Shev River is then used. A third

river, the Dèv, is about a mile from the town, and has a perennial supply; but it rarely happens that the people have to go so far for water. To keep the Sarasvati and Shev Rivers free from pollution, a peon is entertained by the Municipality during the hot weather, and this is the only expenditure incurred. There are, in addition, numbers of wells all over the city, some private, and there is no scarcity of water at any time.

Sanitation.—There are 4 sweepers entertained by the Municipality, who sweep the roads daily and clean up the town, depositing the rubbish in bins, from which it is removed by a contractor, who purchases the right annually.

The Municipality has only lately begun to pay attention to this important branch of conservancy, and a public latrine has been erected within the year at the Wavi gate for the use of women. There are, in addition, about 30 privies attached to private houses. All these are cleaned daily, and the deposit is carried to a pit some distance from the town on the east side, and then covered with earth. There is no demand for poudrette, and the quantity that might be manufactured would be so small that it would be useless to commence the undertaking.

The average annual cost of the conservancy establishment is about Rs. 300.

There are no urinals in Sinnar.

There is no meat market, and no necessity exists for constructing one, the number of people requiring flesh meat being inconsiderable.

Burial-grounds.—There are several places of burial on the outskirts of the town, some distance outside the walls. The principal one is on the west—on the banks of the Shev River, or rather between the river and the Poona road. It has been in use for a long time, and though its position on high ground above the river is objectionable, it is still a reasonable distance from the water, and it is unlikely that it affects it in any injurious manner.

The burning ground is in the bed of the Sarasvati River, to the north-west of the town.

New Works.—The only sanitary work carried out during the year was the building of the latrine at the Wavi gate; a few dust-bins were also repaired in different parts of the town.

Municipality.—TRIMBAK.

Enumerated Population ... ... Total ...			3,161
	Rs.	a.	p.
Annual Income about	2,000	0	0
Expenditure on Conservancy during 1879-80 ...	312	5	6

Water-supply.—From its situation Trimbak suffers no scarcity from water; there are many tanks in the town attached to the different temples. These furnish an ample supply of water, and there are also many wells in the village. The drinking water is very good, and the town is singularly free from disease in spite of the crowds of people who throng its streets at different period of the year.

Sanitation.—A staff of 6 scavengers is entertained by the Municipality, and these clean up the main streets of the town daily. The rubbish is collected in bins in different parts of the town, from which it is removed by the contractors who purchase the right at the annual auction.

The Municipality possesses no carts or animals, and incurs no expenditure for the removal of rubbish.

No public latrines have been built by the Municipality, and no sweepers are entertained. The private latrines attached to houses are cleaned by the occupants. There is a lot of waste ground outside the village, which is resorted to by the inhabitants, and the village being small, no great nuisance is created in it.

There are no public urinals.

There is no meat market, and no necessity exists for one. Vegetables and other miscellaneous articles are sold daily in open market, and the place is kept clean by the Municipality.

Burial-grounds.—The greater portion of the inhabitants of Trimbak are Brahmins and others who dispose of their dead by cremation.

The burning ghát is close to the bed of the Godávari, here a small unimportant stream, about quarter of a mile east of the town. Close to this is the principal burying ground, while there is another smaller one close to the town on the north side. This latter is objectionable in being so close to the town, and measures will be taken to have it closed and another one selected at a greater distance.

New Works.—No new sanitary works were carried out during the year; dust-bins were repaired and wells cleaned out; but the greater part of the Municipal income was expended on paving the roads in the town, as the rain-fall is very heavy, and the unpaved streets are generally impassable during the monsoon.

Municipality—IGATPURI.

Enumerated Population ...	... Total ...	5,184	
		Rs.	a. p.
Annual Income...	...	2,776	5 5
Expenditure on Conservancy during the year	...	908	6 5

Water-supply.—The water-supply of the town is from two sources—wells and a large reservoir constructed by the G. I. P. Railway Company at the base of the hills to the north of the Railway. The wells, of which there are a good number, are scattered about the town; but the water is not very pure, and the use of it is discouraged as much as possible, and some of the principal wells have been closed up this year owing to an outbreak of cholera which occurred in the month of February last.

The main source of supply is from the Railway tank; but this is not available at all houses. The houses of the European employés of the Railway Company have water laid on to them by pipes, and they are, therefore, independent of an outside supply. For the general population there are a number of hydrants attached to the tank water main at different points, and there is an open well below the church, which is filled periodically from the tank. Prior to the cholera outbreak there were two hydrants and this well for the use of the natives; but the supply was not enough, and well water was much used. Owing to the outbreak it was considered advisable to close three of the principal wells situated in the affected quarter, and, to supply the deficiency of water caused by this measure, a number of new hydrants were temporarily erected by the Railway Company in different parts of the town. The closing of the old wells and the supply of pure drinking water resulted almost at once in a disappearance of the disease. The total number of hydrants now in use is seven; but from one of them the supply is very irregular. With the exception of the two old hydrants, all the others are mere temporary expedients, as it has not yet been decided how many the Company will allow; but as this tank is the only pure water-supply available, it is a matter of the utmost importance that it should be open to the public.

Sanitation.—The conservancy staff of the Municipality is not large; but the funds at the disposal of the Committee are limited. There are six scavengers who sweep the streets daily, throwing the rubbish into bins built for the purpose. From these bins the sweepings are removed by the contractor who purchases the right at an annual auction. During the monsoon months, when the contractor does not require the rubbish, it is removed by the Municipality—a cart being kept up for the purpose. The average annual cost of the street conservancy establishment is Rs. 544.

No private latrines are cleaned by the Municipality, and no sanitary cess is therefore levied. There are two public latrines already constructed, and a third is approaching completion. To each latrine a sweeper is assigned, who

cleans it out daily, carrying the night-soil to pits set apart outside the village, where it is deposited and covered with earth. There is no system, as in Násik, whereby the night-soil is converted into poudrette; there is no garden cultivation near Igatpuri, and there would consequently be no demand for such manure. The only thing to be done there is to dispose of the night-soil in the least objectionable way, and this is effected by depositing it in pits outside the town.

The average annual cost of the halálkhor establishment is Rs. 208.

There are no urinals.

There is one meat market erected by the Municipality for the sale of mutton. It is a substantial brick building, with separate stalls and paved floors. It is well looked after and cleaned daily. There is also a beef market in another part of the town; but this is a mere shed. When funds allow of it, attention should be paid to the erection of a proper market. Vegetable and fish are sold in open stalls along the roadway, always open to supervision and kept quite clean.

Burial-grounds.—There are several small burial-grounds in different parts of the outskirts of the town. The question of closing some and opening others at a greater distance has been under discussion for a long time, and a final decision has not yet been arrived at. Both the English Church and the Roman Catholic Chapel have cemeteries attached to them, which are looked after by the respective clergymen.

The number of deaths during the year was 116.

There is one burning ground to the north of Tálegaon Railway bridge; but, as it is thought to be too close to the public road, it is under consideration to remove it to another place, about a mile from the town and to the north-west.

New Works.—Only one sanitary work was carried out during the year—the building of a latrine. The market was repaired as also a well; but the repairs to roads absorbed the greater amount of the funds at the disposal of the Committee for public works.

H. F. SILCOCK,
Assistant Collector and Vice-President.

AHMEDNAGAR.

Municipality.—SANGAMNER.

Enumerated Population according to the Census of 1872.	Males ...	4,695
	Females ...	4,335
	Total ...	9,030

	Rs.	a.	p.
Income during the year 1879-80	...6,316	9	3
Expenditure on Conservancy	...2,243	7	5

Water-supply.—The towns-people mostly drink the water of the River *Pravara*, which lies to the south of the town. That part of the river where people obtain their drinking water from is cleaned out every year at the Municipal cost. A peon, at Municipal cost, is also entertained for four months each year to see that people do not bathe near the place set apart for the purposes of drinking water. Bathing and washing are allowed below. There is a draw-well in nearly every house in the town, but no water—being rather brackish—is said to have been used for drinking purposes. There are four public wells in the north side of the town, from which a few people obtain their drinking water, owing to the river Pravara being at a distance.

Drainage.—In the middle of the town there is only one underground drain of masonry leading southward to the River *Mhálungi*, and to this are joined some drains from private houses.

Cess-pools.—They are cleaned by the owners, not by the Municipality.

Scavengering.—There are 15 persons employed by the Municipality on scavenging, whose sole duty it is to sweep daily all the roads and the streets and deposit the refuse in dust-bins built for the purpose. The right of removing street refuse is sold by public auction every year, and the purchasers who buy it for manure carry it away in their own carts beyond the Municipal limits; for the year 1879-80 the right of removing street refuse was sold for Rs. 501-7-9.

Latrines.—There are 8 public latrines; of these four have 21 compartments each, three 13 compartments each, and one 23 compartments. There are about 75 private privies served by Municipal sweepers. On this work are employed 10 bhangis and 1 bhisti. The Municipality has 1 night-soil cart. The work is supervised by the Octroi Inspector. Iron pans are not in use yet.

Urinals.—There are none.

Markets.—There are two markets, but no sheds erected on them. They are simply pieces of land levelled and railed off for a market.

Burial-grounds.—There are 9 burial places in all—5 to the east, 3 to the north and 1 to the west of the town. No measurements have been taken.

Cremation Ghâts.—For the burning of dead bodies there are only two places, one of which lies in the bed of the river, east of the town, near the ferry boat, and which is made use of in the fair weather only. The other place lies in the bed of the River *Natki* east of the town, and which is made use of in the rainy season. Ninety-five dead bodies are said to have been burnt during the year 1879-80.

New Works.—Latrine, one ... ... } Out of Municipal Funds.
A wall in front of a latrine ... }
Drains ... ... } Out of loan.
Side gutters ... ... }

F. HAMILTON,
Assistant Collector and Vice-President.

Municipality.—AHMEDNAGAR CITY.

Enumerated Population	Males	...	16,619
	Females	...	16,222
	Total	...	32,841

Annual Income.—The net income, including deposits and advances during the year under report, was Rs. 51,056-5-5.

Expenditure on Conservancy.—The total amount spent under this head during the year was Rs. 18,798-10-10. A detail statement showing the several sub-heads under which the above amount was spent is herewith sent.

Water-supply.—The city or the station is supplied with drinking water by the under-mentioned aqueducts built during the time of the Mohamedan rulers, and kept in repairs by the Government and the Municipality:—

Names.	Number of Cisterns to which they supply water.	Water cocks.
Kapurwadi	18	4
Vadgaon	37	7
Nagabaie	14	9
Anundi	2	4
Total ...	71	24

Besides the above, 2 troughs for watering cattle and 4 kundees for washing are provided in the city, and supplied with water from the above sources. People generally wash their clothes, &c., and water their cattle during first 6 or 7 months after the monsoon in the river, in which a spring generally keeps up running during that time; but in summer the river dries up entirely, and the Municipality gets 8 or 9 springs dug in the bed every year, in order to provide water for washing and for watering cattle. All the cisterns in the city are generally cleaned out once or twice every year.

There are 39 wells for public use in the city; people use their water for washing purposes only; their water is saltish. There are also about 250 private wells in people's houses, &c.

The supply of drinking water is barely sufficient to meet the increased want of the people, especially in summer, when the quantity runs short, and in the years when the monsoon is not favourable, some of the aqueducts fail to supply water to the city, when the Municipality is obliged to feed them with water from the wells drawn out by moats and poured in them along their line through shafts. This costs a large sum. The Municipality has already secured the use of some of the wells on the lines of the ducts for this purpose.

Drainage.—In the main streets there are side gutters in stone masonry provided, and in the side streets and bye-lanes there are merely cuttings in earth.

There are two lines of old main drains in the city; these having no paved floor, all the sewerage let into them is absorbed in the ground before it runs a few score feet; the sewerage of a small area to the extreme west of the city is only utilized by irrigating a piece of ground on the bank of the River Sína reclaimed by the Municipality in 1872. Undertaking it as a Famine Relief Work. The above drains being neither large enough, nor so situated as to allow the drainage of the whole of the city let into them, people are allowed about 4,000 cess-pits in the side streets at the corners of their houses; into these pits the water from their baths, kitchens, &c., is allowed to accumulate, and when full, their contents are sprinkled over a large area of ground in front of them, in order to allow the water to dry up soon.

Scavengering.—There are about 25 coolies and 2 mukádams employed on the work of clearing away the town sweepings; it is collected in 238 dust-bins of stone masonry and 6 iron boxes placed in convenient corners of the city, by the 25 coolies; 6 Municipal carts with 13 coolies remove the sweepings to the depôt, making 3 to 4 trips daily, during the 7 months beginning with the rains, and there it is burnt to ashes to mix with the night-soil, in order to make poudrette manure, from the sale of which Rs. 1,157-8-0 were realized during the year under report. During the remaining 5 months the sweepings is sold to brick and tile-makers, and removed to their kilns; from this sale Rs. 593 were obtained during the year.

Latrines and Privies.—There are 65 bhangis, 3 mukádams and 4 inspectors employed on the bhangi work. Fifteen cylindrical carts, like those used by the Bombay Municipality, daily remove the night-soil from private privies (of which there are 1,928) in the city and from 11 public latrines, providing 122 seats for males and 159 seats for females, erected by the Municipality, to the night-soil depôt situated about a mile to the south of the city on the Walki Road; the road, as far as the depôt, is repaired and metalled by the Municipality. The night-soil during the rains is buried in pits dug out in a line in moorum soil, and approached by the carts by a made road; the pits, when full to within a foot from the top, are covered over with a thick layer of sweepings, and allowed to remain so for a couple of years, when the contents become manure ready for use—during the eight dry months the night-soil is mixed with ashes and earth and made into poudrette manure, which becomes ready within a month or so—the process of burying the night-soil is adhered to, as there is no shade provided at the depôt to make the poudrette during the rains. Many people here are of opinion that the manure prepared by burying is better and stronger than the poudrette.

Urinals.—There are 18 urinals provided throughout the city; these are washed by two bhistis and a cooly engaged for the purpose.

Markets.—Good and convenient pucka shades are provided for the beef, mutton, vegetable and sundry articles: markets with sufficient number of stalls

built of stone masonry for the vendors. The sheep and goat are slaughtered at the mutton market in a well-drained and stone-floored yard provided for the purpose. Strict supervision is kept on both the mutton and beef markets, and a Police peon is stationed at each to see that they are kept thoroughly clean and that the slaughter-yards are regularly and punctually washed after their day's work is over. The slaughter-yard for the larger cattle is located far away from the city and the beef market. It is about half a mile to the north-west of the city. The refuse from both the mutton and beef slaughter-yards is daily removed to the night-soil depôt by a Municipal cart. There were 14,346 sheep and 1,522 cows and bullocks slaughtered during the year under report.

There are, besides the above, a grain market near the Mungal Gate, a weekly market held every Tuesday in front of the Municipal Office, where from 4 to 5 thousand people gather every week, and a cotton market called after Mr. Stewart, the late Collector. It is situated a few hundred feet to the south of the city: at this market a godown is built, at the cost of about 5,000 rupees, to let it on hire to store cotton during the rains. A fire-engine is also kept in working order at this market. About 35,000 bales are brought every year to this market.

Burial-grounds.—There are two pieces of ground, measuring about $3\frac{3}{4}$ acres, situated on the west bank of the River Sína, set apart for burying the dead bodies of all castes. Bag Roja is also allowed as a burial-ground for the Mahomedans; in some cases people are allowed to bury dead bodies in their fields and other places.

Cremation Grounds.—There are 4 pieces of ground, measuring about 8 acres, situated in the bed of the river, set apart where dead bodies of all castes are allowed to burn. A Municipal peon is entrusted with the strict supervision of the burial and the cremation grounds.

There was no register kept to obtain the number of bodies buried and burnt during the year under report; but the Municipality has lately taken steps to keep a register that would supply the information.

New Works.—There were Rs. 12,753-4-4 spent on the undermentioned new works during the year :—

	Rs.	a.	p.
264 Running feet of road-side gutter ...	18	0	4
39 Do. underground drains ...	19	11	9
Godown, &c., in the Stewart Cotton Market ...	11,773	12	5
Dust-bins	22	6	1
Glazed pipes laid out a portion of the old aqueducts...	846	2	10
2 New urinals	45	4	4
A piece of road	27	14	7
	12,753	4	4

Local Information. Births.—During the year under report there were 560 births registered, of which 304 were males and 256 females; this number, when compared with the numbers obtained during the year 1880-81, is very small, and seems to be due to the unsatisfactory way in which the register was kept, and for which no special establishment was entertained by the Municipality. Since December last two kárkúns have been engaged on the birth and death register work.

Death.—There were 1,048 deaths reported during the year, of which 553 were males and 495 females.

Vaccinated.—During the year there were 992 persons vaccinated, of which 468 were males and 524 females.

Cholera.—In the months of August and September of the year cholera had broken out in the city, and owing to the stringent measures taken by the Municipality in providing every means and assistance to check the progress of the epidemic, and to giving their special attention to the cleanliness and general sanitation of the whole of the city, there were only 39 cases reported to have proved fatal.

The chief and most essential wants of the city are the increased supply of drinking water, which threatens to fail every summer; the main drainage scheme and the increase in the number of public latrines and urinals.

Statement of Expenditure incurred on Conservancy during the Year 1879-80.

	Rs.	a.	p.
Overseer	576	0	0
Inspection Establishment	790	6	2
Temporary Peon on burial-ground	46	15	1
Original Works.			
New road	27	14	7
„ drains	37	12	1
„ urinaries	51	5	9
„ dust-bins	22	6	1
Repairs.			
Watering streets	100	8	3
Underground drains	114	8	7
Dust-bins	3	9	4
Cleaning the streets and privies ...	10,417	10	2
Public latrines	36	4	9
Rent of land for night-soil depôts	790	7	0
Purchasing moorum and sand for roads ...	1,484	1	2
Wages of Begáris for repairing roads ...	1,753	4	8
Extra sanitary measures for cholera ...	72	9	3
Dead Stock.			
Refuse carts	607	7	2
Moorum do.	398	14	4
Night-soil carts	772	4	0
Privy pans	348	6	5
New frames, &c., for stone rollers	53	8	0
8 Bullocks	287	8	0
Lamps for night-soil carts	5	0	0
Total ...	18,798	10	10

FRAMJI ARDASER,
Chairman, Ahmednagar Municipality.

POONA.

Municipality—LONA'VLA.

Population	Males ...	1,322
	Females...	600
	Total ...	1,922

	Rs.	a.	p.
Annual Income	764	10	6
Expenditure on Conservancy ...	188	0	0

Water-supply.—There is a tank near the Lonávla wood which supplies water for nearly three-fourths of the year; during the rest of the year the villagers suffer much for want of pure water. I should say that the water of this tank is extremely foul, and it is the only place whence the villagers can obtain water; arrangements have nearly been concluded for getting a supply of water from the Railway tank at Bhushi, laid in three stand-pipes for the use of the villagers.

Drainage.—Where there are drains at all, they are mere cuttings in the earth.

Scavengering.—No bhangis are employed, arrangements are being made for building kutcha dust-bins, which the potters of the place are to keep clear at their own expense, having the rubbish as their recompense for doing so. Four coolies are employed in sweeping the streets.

Latrines.—There are no public latrines, but about 25 private privies, which are cleared at the expense of the house-owners.

Urinals.—None.

Markets.—None.

Burial-grounds.—Two on the west of the village—one of 27½ and the other of 11 gunthas. These burial-grounds apparently could not be worse situated than they are, and endeavours should be made to change the site. Seven people are said to have died at Lonávla last year, of which three were buried.

Cremation Ghâts.—One side of the Indráyani River; 4 bodies were burnt during the year under report.

New Works.—None.

Municipality—Sa'svad.

Population	Males ...	3,183
	Females...	3,233
	Total ...	6,416

	Rs.	a.	p.
Annual Income	2,272	3	5
Expenditure on Conservancy	572	5	0

Water-supply.—This Municipality depends almost entirely upon the River Karha for its supply of drinking water. In the hot season, when there is not much water left, a kutcha dam is thrown across the stream, and a man placed to see that the water is not defiled by washing clothes, &c. A water scheme has, I believe, been planned at Sásvad by which water is to be brought into the Municipality by pipes from higher point on the River Karha; but when the funds of the Municipality will admit of this scheme being taken up, is a question.

Drainage.—There are open side drains of masonry on the main streets; in the side streets they are mere cuttings.

Scavengering.—Two bhangis are engaged by the Municipality. The sweeping is deposited in four different places outside the village. The income from the sale of the sweeping was Rs. 56.

Latrines.—No public latrines. It is proposed by the Committee to build some latrines if the Municipal funds would allow. There are about 60 private privies served by two bhangis, who are paid by the owners.

Markets.—A good sized shed is being erected by the Municipality in the middle of the large street. The northern side of the shed is used by those who sell vegetables, and the southern by grocers. This shed has not cost much, but suits the purpose well. It has not as yet been completed.

Burial and Burning Grounds.—A place on the bank of the River Karha to the east side of the village, measuring 7 acres and 52 gunthas, is used by Hindus as burning and burial-ground. Number burnt during the year was 55, and that buried was 39.

New Works.—A road in the village and the shed intended to be used as a market. Prickly-pear clearances were commenced just at the end of the year under report.

Municipality—Jejuri.

Population	Males ...	1,253
	Females...	1,247
	Total ...	2,500

	Rs.	a.	p.
Annual Income	2,986	5	9
Expenditure on Conservancy	360	0	0

Water-supply.—There is a large masonry reservoir on the west of the village, built by His Highness the Maharaja Holkar, from which the water is brought by

pipes to four masonry cisterns in the village. The water in the tank is not very clear; this is probably to be accounted for by the tank being much silted up; but I do not think that it can be much clearer than it is till the tank is cleared of some of the mud in it. Endeavours are being made to prevent mud and sand from being washed into the tank by erecting masonry walls across the channel by which water flows into the tank at certain intervals. Till a report on the subject is furnished by some one competent to give the information, nothing is likely to be done, and the Municipality is badly off for funds. In the village there are also four wells belonging to private individuals.

Drainage.—The drains in the village everywhere require looking after; in most of the streets they are mere cuttings in the earth.

Scavengering.—Two bhangis are employed by the Municipality, who clear up 9 private privies. There is no place appointed for disposing of the night-soil collected. The place where it is thrown is best known to the bhangis themselves. They are also employed in sweeping the streets. The amount of rubbish collected is small in amount, and there is reported to be no sale for it; dust-bins are much wanted in the village.

Latrines.—There is one public latrine which is rarely, if ever, used, because the bhangis do not clear it out properly, and there are no proper iron receptacles for the night-soil; owing to there being no Resident Magistrate, the people prefer to go and ease themselves in and about the prickly-pear which abounds at Jejuri, as they can do so with impunity.

Urinals.—None.

Markets.—None.

Cremation Ghâts.—A place is selected to the east of the village, measuring 7 acres 32 gunthas, which is used as both burning and burial-ground. The total number buried during the year was 9, and that burnt was 42.

New Works.—No new work during the year; prickly-pear clearance since commenced.

Municipality—TALEGAON DA'BHA'DA.

Population	Males ...	2,508
	Females ...	2,502
	Total ...	5,010

	Rs.	a.	p.
Annual Income	2,340	8	6
Expenditure on Conservancy	530	10	3

Water-supply.—There is a large tank to the south of the village, very much silted up, as people come here to draw water and wash vessels and cloths, and sometimes to bathe, if no one is looking, and the supervision kept at the tank is lax, and the water at the tank is very far from clear, and must, I think, be injurious to health. The great difficulty at Talegaon Dábháda is how to improve the water-supply; the only remedy appears to be, that water should be brought in from outside in pipes at a cost of about Rs. 50,000. The money to be borrowed in the open market on the guarantee of the Municipal Revenues, and the Municipal income to be increased by the imposition of a house-tax carefully and impartially assessed and levied punctually. There is a nála running outside the village, which dries up about Christmas. There are numerous wells in gardens at some distance from the village. The well water about Talegaon Dábháda is almost invariably unwholesome.

Drainage.—The side drains of the road in Rawiwar Peth are closed; all the others are open.

Cess-pools.—There are two cess-pools of brick and lime masonry, and also some pits are dug; they are cleared out every day.

Scavengering.—There are two bhangis employed and five people employed in sweeping the streets and in clearing away the night-soil. The night-soil cleared

away is said to be made use of in the gardens about the village. I doubt this statement. There is one cart employed in clearing away the rubbish, but there are no dust-bins. The rubbish is carted out to four places outside the village, where it is kept and sold. The amount realized by the sale of rubbish during the past year was Rs. 50-9-0. Some arrangements will be made for building dust-bins as soon as possible, as they are urgently required.

Latrines.—There are four latrines on the east of the village built of masonry. They are rarely, if ever, used, as they have no iron receptacles, and the bhangis, as they are not looked after properly, cannot be trusted to clean them out regularly as they should be; endeavours will be made to have these latrines properly served by bhangis, and provided with iron receptacles as funds admit. They may then become more popular; at present I have ordered all private owners of privies to supply themselves with iron baskets for their privies on pain of having their privies closed.

Urinals and Markets.—None.

Burial-grounds.—One at a distance of a mile to the east of the village, measuring 175 × 166 feet; 19 bodies were buried.

Cremation Ghâts.—There are two places to the east of the village measuring 840 × 58 and 480 × 108 feet; 75 persons were burnt during the year.

New Works.—A road in the village.

Municipality—TALEGAON DHAMDHERA.

Population	Males ...	2,210
	Females ...	2,218
	Total ...	4,428

	Rs.	a.	p.
Annual Income	1,245	2	3
Expenditure on Conservancy	330	3	0

Water-supply.—The river flows near this village for about eight months in the year; it dries up in the hot season; water is then obtained by digging holes in the bed of the river. The quality of this water is good; there are some private wells in the village, the water in which is not uniformly sweet. This Municipality is not, on the whole, well supplied with water.

Drainage.—Some of the main streets are supplied with masonry drains, which carry off the waste water from some of the houses. These drains are covered in some places; as a rule, the gutters are mere cuts in the earth.

Scavengering.—Only one bhangi is engaged. The night-soil and sweepings are deposited in the same place outside the village to the south of it. I should doubt if this statement is correct with regard to night-soil; the bhangi probably disposes of that by throwing it away anywhere. The night-soil must be limited in quantity, and there is no demand for it. The rubbish collected was sold to cultivators, during the year under report, for Rs. 25.

Latrines.—There are no public latrines; latrine trenches have been dug outside the village walls, but are probably never used, as there is no Resident Magistrate to fine people for not resorting to them. There are also 12 private privies served by the same bhangi; orders have been issued that baskets should be used in these privies.

Markets.—None.

Urinals.—None.

Burial-grounds.—One on the south of the village.

Cremation Ghâts.—Bodies are burnt at three different places on the side of the river.

New Works.—Two new wells were repaired in the village during the year under report.

This Municipality will have to undergo a process of reconstruction, as of late it has been badly managed. The place in itself is not unsanitary, but the result of the money spent on sanitation in the Municipality during the year under report is not very marked.

Municipality—SIRU'R.

Population	Males ...	2,007
	Females ...	2,358
	Total...	4,365

	Rs.	a.	p.
Annual Income	4,591	4	4
Expenditure on Conservancy	1,379	12	2

Water-supply.—The River Ghodnadi flows near the village; this river affords a sufficient and wholesome supply of water for the residents. As the water flows throughout the year, there are no special precautions taken for watering cattle, washing clothes, and bathing, &c. There are some wells in the village, but the water of these wells is not fit for drinking purposes.

Drainage.—In the main streets there are open masonry gutters; in the side streets mere cuttings in the earth.

Scavengering.—There are 7 sweepers paid at the rate of Rs. 5 per month; there are 2 carts; 40 dust-bins are placed on the side of the streets at different places. Two places have been selected for depositing sweepings—one at a distance of 200 yards from the village, and the other at a distance of 600 yards. The sweepings are generally sold to cultivators, as the place where the night-soil is deposited is not the property of the Municipality.

No sale of the night-soil manure was effected last year; arrangements about the disposal of rubbish have nearly been concluded. The whole arrangements regarding the disposal of the night-soil collected must be remodelled; but there is a difficulty about getting a place to cart the night-soil to. There is no great demand for poudrette at Sirúr.

Latrines.—There are 6 public latrines with 35 seats in all, out of which 18 seats are intended for males and 17 for females; there are also 324 private privies which are served by 7 sweepers; 1 cart is used in carrying night-soil; a new cart has probably been purchased by this time, as the old cart was nearly worn out.

Urinals.—None.

Markets.—There is no place selected for keeping articles for sale; a large market is held every Saturday, when the people sit on the sides of the public road under sheds temporarily erected for the purpose. The Committee propose to build a vegetable market next year, and an allotment has been made for this purpose in the Budget.

Burial-grounds.—A place is selected on the west of the village as burial-ground for Hindu dead bodies, measuring 440×395 feet, and three burial-grounds are used by Mahomedans, each measuring 675×615, 95×90 and 585×360 feet respectively, of which the former two are on the north, and the third on west of the village. There were 12 burials during the year.

Cremation Ghâts.—There are two places selected for burning dead bodies on the side of the River Ghodnadi—one on the north and the other on the east of the village, each measuring 180×160 and 270×68 feet respectively; 13 dead bodies were burnt during the year: the total number of deaths during the year 1879-80 was 25, which merely shows how grossly careless the kulkarni has been in the matter of keeping the Death Register.

New Works.—Forty dust-bins were made and placed about the town towards the close of the year.

J. MUIR-MACKENZIE,
For Assistant Collector.

Municipality—JUNNAR.

Enumerated Population	Males ...	5,432
	Females ...	5,438
	Total ...	10,870

	Rs.	a.	p.
Annual Income	4,655	2	0
Expenditure on Conservancy	1,037	12	0

Water-supply.—On west side of the town there are 3 wells—one with steps and the other two without them. These 3 are under the hills and close to the town. The Municipality has constructed a storage receptacle, to which water is brought and carried to several cisterns in the town by means of pipes. The water in these wells generally sinks below the level of the pipes, in consequence of which labourers are every year required to be employed for pumping water up, which annually costs about Rs. 300. On south side of the town there is also one well, called Barabowdi, which the Municipality has purchased. From this also has been laid pipes which bring water to several cisterns. The water-supply of this lasts for 8 months, but fails in the remaining 4 months of the year, when labourers are required to be employed for pumping water up. There is also another well belonging to the Saiads, and from this also pipes are laid to bring water to all the cisterns in the Saiad Wada; the water-supply of this never fails even in the hot weather.

In addition to these wells there is a large tank on the south side of the town, which is called Kumbhartaláv, which was cleaned on only two occasions. This tank has in it two wells, of which one belongs to the Municipality; from this also pipes are laid to bring water to some cisterns.

There is a river on north side of the town, the water-supply of which lasts for 8 months only.

The cattle are watered near the cisterns—one near the dispensary, and the other by name Darbár. Every cistern in the town is provided with troughs, wherein the cattle are watered. There are similar precautions with regard to bathing, clothes-washing and such like operations.

Drainage.—There are two large drains. In the main streets there are open side drains of lime masonry; they are annually cleaned. In the side streets there are mere cuttings.

Scavengering.—There are 3 sweepers, 4 Mhárs, 1 cart and 55 dust-bins. The sweepings are taken away by the cart-man, it being his property, because it has been lately determined that the sweepings, &c., be given to the cart-man as a perquisite in consideration of his pay being small.

Latrines.—There are two public latrines on the dry-earth system—each has 50 seats. There are about 75 private privies served by sweepers at their owners' costs.

Cess-pools.—None.

Urinals.—None.

Markets.—No built markets. The space known as the Ovan's Bázár was cleared of prickly-pear by the Municipality. A few persons have been afforded permission to build shops on the ground surrounding this space. A weekly fair is held here, at which articles of all kinds are sold. A cattle fair is also held on the same ground.

Burial-grounds.—Two in the town, of which one is in Saiadwáda, and the other in Mangalwar Peth. These places have long since been used for burial purposes. The Mahomedan community bury their dead bodies in a place called Barao, and within the limits of the village of Amrapur, &c. These places are at the distance of ¼ of a mile from the town. There were 8 or 10 burials during the year under report.

Cremation Ghâts.—Two on the banks of the river—each 300 feet long and 125 feet wide. No record of the number of bodies burnt during the year.

New Works.—Public latrines.

Municipality—ALANDI.

Enumerated Population ...	...	Males	822
		Females	802
		Total	1,624

	Rs.	a.	p.
Annual Income	3399	1	3
Expenditure on Conservancy	331	4	10

Water-supply.—Nowhere in the town is water supplied at the cost of the Municipality. There are 7 public wells—3 with steps and 4 without them. None private. The people here use the water of the River Indráyani and a nála by name Bhágirathi; they both flow in the vicinity of the town, and keep a constant water-supply, and the quantity is good.

From the said river water is drawn above the town, and there is a ford down-stream; cattle are watered and washed below the town, and similar precautions are taken with regard to bathing and washing and such like operations. The next village down-stream is about one mile distant. No tanks.

Drainage.—In the main streets there are drains of earth and masonry, and in the side streets there are mere cuttings.

Cess-pools.—None.

Scavengering.—There are 4 sweepers and 1 scavenger by whom the town is daily swept, and the sweepings are taken to a depôt outside the town, but near the river, where they are allowed to accumulate, and then sold by public auction, the sale-proceeds being credited to the Municipality.

Latrines.—No public latrines have been constructed. No private privies. The inhabitants here use the neighbouring fields as privies.

Urinals.—None.

Markets.—No markets have been erected; the Banias use their own shops, and on market days shop-keepers open their shops on a open place.

Burial-grounds.—Two on the south and west side of the town, one near the Poona bridge, and the other near Kuberganga's nála—one of 1 acre and the other of 2 acres.

Cremation Ghâts.—One on the south of the town.

New Works.—There were formerly lamps, for which cocoanut oil was used, and the lamps were of smaller size; larger ones with wooden pillars have been provided this year, and rock oil is being used for them.

Municipality—KHED.

Enumerated Population...	Males	...	1,800
	Females	...	1,663
	Total	...	3,463

	Rs.	a.	p.
Annual Income	1276	6	8
Expenditure on Conservancy	178	13	6

Water-supply.—No water is supplied at the cost of the Municipality to this town from the Bhíma River; it is drawn above the town, and there is a ford down-stream. Cattle are watered and washed at both places below the river as well as above the river, and there are similar precautions with regard to bathing, clothes-washing and such like operations. In the hot weather one patewála is kept for this purpose. People use the water of the Nagzhari, on the east of the town, for drinking purposes. No tanks within the Municipal limits, but there is one beyond it, at a distance of about half a mile, near Shidheshwar; it is with steps; it was last cleaned out some 8 years ago at the cost of the Municipality.

It fills by surface drainage. The supply never fails, and the quantity is good; some fields are also irrigated by that water. In addition to the said tank there are 4 public wells with steps. None for the lower castes. The supply of these wells is insufficient, and the quantity not good; it is only used for building purposes.

There is also one well with steps beyond the nálas, which is specially reserved for drinking and domestic purposes. This well is in good repair, but has no parapet walls; was cleaned out 2 years ago by the Municipality.

Drainage.—In the main streets there are open side drains of masonry on one side only; in the side streets there are no gutters, but mere cuttings.

Cess-pools.—None.

Scavengering.—There are no mukádams; 4 sweepers; no cart; no dust-bins; the sweepings are taken to a depôt outside the town, where they are stored and sold by public auction, and the sale-proceeds credited to the Municipality. This year it realized nothing.

Latrines.—No public latrines. There are 15 private privies which are served by scavengers at the cost of their owners. No carts for the disposal of night-soil.

Urinals.—None.

Markets.—No markets have been erected; a bázár is held on Sunday in the space opposite the school.

Burial-grounds.—One on the east side of the town, measuring 3 acres, and on the north measuring 2 acres, and the third one on the west side, about 20 gunthas. There were 12 burials during the year.

Cremation Ghâts.—Two below the town. There were 20 bodies burnt during the year.

New Works.—None.

Besides the above there is in this town a Dispensary, which is supported by the Municipality and the Local Funds.

There is a great deal of prickly-pear which is removed by the Municipality, in accordance with the means at its disposal, which are not large.

E. GRAY,

Assistant Collector of Poona.

Municipality.—BA'RA'MATI.

Enumerated Population	Males ...	2,227
	Females ...	2,227
	Total ...	4,454

	Rs.	a.	p.
Annual Income	5,300	3	9
Expenditure on Conservancy	„ 1,050	0	0

Water-supply.—The water is supplied from the River Karha for drinking and other purposes for the four months in the monsoon, and in the remaining eight months Hels are made by the Committee for the supply of water. There are 38 wells in the town (35 private, and 3 looked after by the Municipality); but the water thereof being brackish, it is used for purposes other than drinking. Drinking water is supplied from the Hels in this season. After monsoon, sometimes for two months, water is procurable in the river; but being scanty, it is used for purposes other than drinking; yet due precautions are taken with regard to bathing, washing of clothes, and such other purposes.

Drainage.—In the main streets there are open side drains of masonry; in the side streets there are mere cuttings.

Cess-pools.—There are 95 cess-pools of various sizes: six of them are of stone and lime masonry, and the others mere cuttings. They are cleaned out periodically by their owners.

Scavengering.—There are 6 sweepers for sweeping the streets, and one cart (bullocks for which are hired daily) and 14 dust-bins built of stones and earth. The sweepings are taken to depôts on the north and south sides outside the town at some distance, and sold by public auction yearly without being burnt. The amount realized was Rs. 28-2-0 for the year in question.

Latrines.—There are some latrines on the dry-earth system to the north and south sides, outside the village at some distance, managed by three bhangis, who put earth upon the night-soil, and when one latrine is filled up, another one is supplied at some distance from the former one. The earth and the night-soil in the latrine so filled up is again taken out and put into large pits dug out at a distance of ¼ mile from the town for that purpose. There are 45 private privies served by Municipal sweepers, but they are paid by the owners for the service done.

Urinals.—None.

Markets.—There are no public, private, or Municipal buildings for the markets; they are held in open places.

Burial-grounds.—There are four burial-grounds, two to the north and the other two to the south side of the town, each measuring nearly 2 acres—in all 8 acres. Besides these, there is another ground to the south side, measuring 1 acre, used by the Musálmans. There were 65 burials during the year.

Cremation Ghâts.—One to the south of the town on the bank of the River Karha. There were 71 bodies burnt during the year.

	Rs.	a.	p.
New Works—			
Four Dharmshálas ... ... (Of this sum Rs. 100 were the contribution from Local Funds.)	2,777	10	9
A Fort wall in Kasba	1,717	1	8
Steps to Dindi (small gate) in Kasba	219	14	0
Two Hels in River Karha	900	5	9
A dam to protect the Ota to a tree near the west gate of Peth	282	12	4
Roads and drainages...	2,544	7	9
A well	2,272	12	9
A stone pavement to the floor of the Municipal Office ...	137	0	9
Contribution to School-house	317	0	3
A dam to protect the Ota under a tree near Kasba ...	198	11	0
A kitchen room to the big Dharmshála	597	14	4
A cart-room	34	13	6
A bungalow on Jalochi Ves	25	0	0
Steps to Kale's well	70	0	0
Repairs to the well in Kasba	33	0	0

Municipality.—INDA'PUR.

Enumerated Population	Males ...	1,794
	Females ...	1,353
	Total ...	3,147

	Rs.	a.	p.
Annual Income	1,715	12	2
Expenditure on Conservancy	280	0	0

Water-supply.—There are 176 draw-wells and 6 wells with steps for the supply of water for drinking and other purposes. There was formerly much want of water in this town; but this has been to some extent remedied by a tank lately constructed. The tank is without steps, and the water thereof is used only for washing; but a great benefit derived from it is that, on account of this reservoir, the supply of water in wells never fails even in the hot season. This tank is looked after by the Municipality.

Drainage.—In the main streets there are open side drains of masonry; in the side streets there are mere cuttings.

Cess-pools.—There are 25 cess-pools, of various sizes, of stone and lime masonry. They are cleaned out periodically by their owners.

Scavengering.—There are six sweepers for sweeping the streets. A cart is hired from time to time for removing the garbage, which is piled to the north and east sides of the village, and is used as manure for gardens. It is never put up to auction.

Latrines.—There are some latrines outside the village to the south-west and north, dug out by the Relief people, but they are never used by the villagers. There are 50 private privies in the town, of which 25 are in use, and they are served by two sweepers paid by the house-holders. The night-soil is taken to depôts to the north-east and west sides at a distance of 1½ miles from the village. Nothing has been done by the Municipality with regard to the disposal of night-soil.

Urinals.—None.

Markets.—There are no public, private or Municipal buildings for the markets; they are held on roads.

Burial-grounds.—There are six—one to the east, two to the south, and three to the north side of the town—measuring 1½ acres in aggregate. There were 45 burials during the year.

Cremation Ghâts.—One to the south and the other to the west side of the town, measuring ½ acre in all. There were 90 bodies burnt during the year.

New Works—

	Rs.	a.	p.
A well to the west village gate	267	12	0
A Dharmshála in Shidheshwar's Temple	507	3	0
A Dharmshála to the Nagar Ves	947	6	8
A tank to the Nagar Ves	5,275	14	0
A well to the Nagar Ves	2,176	2	0
(Of this sum Rs. 675 were the contribution from ryots.)			
Roads and gutters	5,617	2	1
Committee's Office	799	0	3
Prickly-pear cutting	297	8	10
A dust-bin	34	1	6
Protection wall to a well in Rajput Ali	37	10	9
Cattle-pound	170	14	9
A stone pavement near the Chavdi	169	15	2

SORABJEE PUDUNJEE,
Assistant Collector, Poona.

Municipality.—Poona City.

Enumerated Population as per Census of 1872.—Males 47,333 + Females 43,103=90,436.

Annual Income.—About Rs. 1,70,000.

Expenditure on Conservancy.—The annual expenditure is about Rs. 56,000.

Water-supply.—The following are the sources from which the city draws its water-supply :—

	Gallons per diem.
1. From the old Kátraj aqueduct	650,000
2. „ Chaodhari's do.	50,000
3. „ Nana Fadnavis' do.	100,000
4. „ Rastia's do.	50,000
5. Khadakvásla Canal	650,000
Total ...	1,500,000

or about 15 gallons per head of population.

The Mutha River on the north of the city, and the Nagzeri nála which runs through it, and which has become a perennial stream since the opening of the Khadakvásla Canal by percolation, provide water for washing and ablution for a large portion of the population and for the cattle of the city generally. There are 1,282 wells in the city; in the western part almost every house has its well; they are, however, not used now to any great extent.

There are two tanks impounded in the valley of the village of Kátraj (4 miles distant) by masonry bunds, one below the other, the upper being a feeder of the lower. The tanks are supplied from the water shed of the valley by admitting water through sluices, which admit of being opened and shut at pleasure. The water of the first floods is carried off by diverting channels cut along the sides of the reservoirs; thus, only the water of the latter rains is admitted into the tanks.

The supply of water in the tanks does not wholly depend upon the volume impounded, but is in the main obtained from springs which abound in the bed of the tanks. The springs are caught in a masonry duct constructed at the bottom of the lower tank, and are let into the channel of the aqueduct. The water of the tank is admitted into the aqueduct through 6-inch apertures on the dam, the apertures being 2 feet apart along the height of the dam. The aqueduct itself is of masonry and arched, about 2½ feet wide, 6 feet in height, and over 4 miles in length; it admits of men walking through it and working in it for the removal of silt or for repairs when necessary. The line of the duct is intercepted at about every 100 yards by a well sunk from 4 to 10 feet below the level of the bottom of the duct, and raised a few feet above the surface of the ground. These wells, of which there are about 70, act as settling tanks where silt brought down by the water is deposited, and pure water permitted to pass down. In every fourth or fifth of these wells the outlet of the duct is blocked with masonry holes being provided in it from 3 to 6 inches in diameter, through which the discharge of the water is regulated. The aqueduct, when working at its highest, discharges a volume of water of a sectional area of about 144 square inches, and at ordinary times of about 60 square inches, being 7½ and 3 gallons per second respectively. The velocity has not been gauged; but as there is a break of head at each of the intercepting wells, it is not very great.

The aqueduct, being located at considerable depth below the ground, catches numerous small springs along its course, and in three or four places has water let into it from independent wells by its side.

The Nana Fadnavis', the Chaodhari's and the Rastia's aqueducts are small masonry conduits fed from wells from five to seven miles out of the city.

The water from the Mutha Canal is taken in two iron mains, and laid on private dwellings and public cisterns by means of pipes on the modern mode of delivering under-pressure.

Drainage.—The western parts of the city have underground sewers to carry off the sullage; but they are somewhat out of order at present. The principal streets have dry stone covered side drains for carrying away surface drainage, and the minor streets have open drains. The Municipality have commenced the construction of U-shaped masonry drains wherever there is a constant flow of water from public cistern, &c. In parts of the city where there are no sewers, the sullage is removed by manual labour; but this, of course, is done imperfectly, and a great deal saturates the soil.

Scavengering.—There are 131 road sweepers, 24 rubbish carts, 150 donkeys and 160 dust-bins in use in the City of Poona. The sweepings are taken to a depôt on the north of the city, 1 mile distant, where they are burnt, and the ashes are then removed to a second depôt, 1¾ miles distant, where night-soil is deposited, and then mixed with night-soil removed thither and converted into poudrette. The poudrette so made is sold to agriculturists. During the year 1879-80, 4,936 tons of poudrette were manufactured and sold for Rs. 8,956.

Latrines.—There are 32 public latrines with 182 seats. There are 6,950 private privies served by Municipal halálkhors, of whom there are 275. There are besides 6 bullocks; halálkhor bhistis; 24 night-soil carts. Iron receptacles are used in some of the public latrines, and wicker baskets in others (the stone built ones) as well as in all house privies.

Urinals.—There are 15 public urinals built of stone. They are washed once a day.

Markets.—The principal vegetable and fruit market of Poona is held daily on the open ground called "the Mandai," in front of the "Shanwar Wada." Separate places are assigned for the sale of leaf, root and other vegetables, fruit, fish, grass and firewood. There is a small vegetable market, belonging to Mr. Nandram Naik, in a building known as the "Kotvál Chávdi."

The Municipality has hired a building on the borders of the Ganesh and Aditwar Peths, which they have fitted up for their principal meat market. They have besides three small neatly built meat markets of their own in three other

quarters of the city. Mr. Nandram Naik owns a neatly built building in Aditwar Peths, which is licensed by the Municipality for a dry-fish market.

Burial-grounds.—Of these there are 72 in the city—all private. The Municipality have in contemplation to open extra-mural burial-grounds during the current year (1880-81.)

Cremation Ghâts.—There are two burning ghâts on the bank of the Mutha River. No register is kept of the cremations that take place.

New Works.—The following is the list of works completed during the year 1879-80 and in progress on the 31st March 1880 :—

No.	Name of Work.	Expenditure.
		Rs.
1	*New Roads* (length 1,000 feet)	691
2	*Improvement of Roads*	1,826
3	*Water-supply.*—New works such as pipes, cisterns, &c. ...	12,726
4	*Ditto.* Improvement of old works	1,920
5	*Markets, new*	1,533
6	*Ditto.* Improvement of old ones	1,499
7	*New drains and sewers.* (length 1,314 feet)	1,161
8	*Improvement of old drains and sewers*	3,445
9	*New latrines* (4 sets)	3,315
10	*New dust-bins* (20)	1,061

A. H. PLUNKETT,
City Magistrate and Chairman,
Poona Municipal Committee.

SHOLA'PUR.

Municipality—BA'RSI.

Enumerated Population	Males ...	9,662
	Females ...	8,898
	Total ...	18,560

	Rs.	a.	p.
Annual Income	16,812	15	0
Expenditure on Conservancy	2,865	11	0

Water-supply.—There are 47 public wells for drinking purposes; out of these 21 are with steps, and the remaining 26 without them. Besides these there are 70 private wells.

There is also a large tank to the north of the town, built by the Municipality, which adds to the water of the town by percolation.

The Municipal wells are annually cleared out, and care has been taken that no one washes clothes in them.

Drainage.—Gutters have been constructed along the sides of the main streets. In the side streets there are branch gutters, or rather cuttings, joining the major gutters in the main streets.

Cess-pools.—There are none here.

Scavengering.—There are 15 sweepers, 4 coolies, 4 carts, and 90 iron dust-bins, supervised by 2 inspectors. The sweepings are taken outside the town, where they are sold. The sale realized Rs. 293-7-0.

Latrines.—There are 6 public latrines with 230 seats in all, and 4 privies, which are cleared by 6 sweepers at Rs. 5 each per mensem, with one night-soil cart. There is also one supervisor. Iron receptacles are used in all.

Besides the public latrines there are 68 private privies, which are cleared by private arrangement.

The night-soil is removed to the west of the town to a distance of over one mile.

Urinals.—One only.

Markets.—Vegetables, &c., are sold on the gutters in the Somwár Peth, there being no building for the purpose. There is a meat market with sheds.

Burial-grounds.—One to the west of the town, near the "Haral" well, where the Mahomedan dead are buried.

One to the south-east of the town, near the Lendi Nála, for the dead of other castes. The number of deaths during the year amounted to 755.

Cremation Ghats.—An open space is allotted for the purpose of burning dead bodies to the north of the town.

New Works.—One Municipal náka. One verandah to the Dharmshála near the Mámlatdár's Kacheri.

Eighty-nine iron dust-bins for the reception of sweepings.

Municipality—PANDHARPUR.

Enumerated Population...	Males ...	8,032
	Females...	8,243
	Total ...	16,275

	Rs.	a.	p.
Annual Income	47,350	15	10
Expenditure on Conservancy	18,748	8	6

Water-supply.—There is one river called the Bhíma. Its water is used for drinking purposes. Besides there is a tank built by the Municipality, the water of which is brought into the town by means of pipes, where it is used for drinking purposes. It is in good repair, and is supervised by an overseer of the Irrigation Department specially entertained by the Municipality. Small animal life having been found to exist in this tank, a scheme for filtering the water is shortly going to be undertaken.

Drainage.—In the main streets there are gutters, and in the side streets there are mere cuttings.

Cess-pools.—There are none here.

Scavengering.—There are 42 bhangis and 4 carts. The refuse is removed to a distance of 1 mile from the town, where, after disposal, it is sold to agriculturists. It realized Rs. 49. A large extra staff is entertained during the fairs, in proportion to the number of pilgrims attending. The manufacture of poudrette has also been commenced.

Latrines.—There are 51 public latrines, which are cleaned by 2 Municipal sweepers.

Urinals.—There are 14 public urinals.

Markets.—One meat market—being a building. Besides an open space is allotted for the sale of vegetables, &c. Both are looked after.

Burial-grounds.—There are 3 pieces of ground set apart for burying purposes. They measure in all 2 acres. There were about 450 burials during the year.

Cremation Ghats.—There are 3 different places set apart for burning the dead.

New Works.—One bridge over the road leading to the Mharwada. One dharmshála near the "Kála Maruti" under construction. This will be a large and spacious dharmshála with a water pipe close by, and will greatly benefit travellers. The work will shortly be completed.

A. H. SPRY.
Collector of Sholápur

Municipality - SHOLA'PUR.

Enumerated Population as per Census of 1872 ...	Males ...	27,986
	Females...	25,417
	Total ...	53,403

	Rs.	a.	p.
Annual Income	84,326	6	0
This does not include the loan of Rs. 1,93,894 raised in the market for carrying out new water works.			
Expenditure on Conservancy	25,418	2	0

Water-supply.—There are two tanks, one with steps, situated to the east of the fort wall. Its water is used for drinking and domestic purposes. It is in good repair, and was cleaned during the year. The other is without steps, situated to the east of the city, where bathing, clothes-washing, and cattle-watering are permitted. Both these tanks are filled by surface drainage.

In addition to these tanks there are 24 public wells—5 of these with steps and 9 without steps; total 14—are set apart for drinking and domestic purposes, and the rest for bathing and clothes-washing. There are also about 15 private wells.

Drainage.—There are open side drains of masonry on both sides of the main and cross streets, and mere cuttings in bye-lanes. There are 4 sewers in the centre of the roads; 3 of these are old ones, and are running south to north, and one east to west. The first 3 are often silting up on account of their faulty construction.

Cess-pools.—There are about 1,870 cess-pools of various sizes; some of these are of brick and lime masonry, while others are formed by placing earthen and iron pots. These are cleaned daily by Municipal sweepers.

Scavengering.—There is one Head Sanitary Inspector, 18 mukádams and peons, 54 road sweepers, 16 carts and 31 dust-bins. The sweepings of 8 carts are taken to a depôt situated to about half a mile north of the town, where they are burnt, and the ashes are mixed with night-soil. The poudrette thus made is sold to the agriculturists. During the year 121,176 cubic feet were prepared, which realized Rs. 841-8-0.

Latrines.—There are 10 public latrines containing 498 seats in all, and 3,583 private privies; all these are served by Municipal sweepers, and are cleaned early every morning. There are 6 mukádams, 118 bhangi sweepers, and 10 cylindrical iron night-soil carts: iron and earthen pots are used in most of these.

Urinals.—There are 7 urinals of iron erected at suitable places in the thickest part of the city, which are cleaned daily by Municipal sweepers.

Markets.—There is 1 for vegetable and 5 for mutton and beef; all these are constructed on high plinths with paved floors, and are well looked after.

Burial and Burning Grounds.—There are in all 5 burial-grounds of about 60 acres, situated to the north, south and east of the town. There are 2 burning grounds at the bank of the Shelgi Nála, situated about a mile and a half to the north of the town. There were 6,272 bodies buried and burnt during the year.

New Works.—During the year under report the Municipality had, by permission of Governments of India and Bombay, raised in the market a loan of Rs. 1,93,894 for supplying the town with pure drinking water from the Ekrúk tank, and the work of constructing an "impounding tank" about a mile to the north of the city and close to the canal, and of two storage reservoirs on the highest part of the city was under progress. It was proposed to supply water in the storage reservoirs by steam force pumps, and from there it is to be distributed in the town by gravitation.

DARASHA,
Chairman, Sholápur Municipality.

Municipality—KARMA'LA TOWN.

Enumerated Population	Males ...	3,538	
	Females..	3,221	
	Total ...	6,759	
	Rs.	a.	p.
Annual Income	3,960	8	9
Expenditure on Conservancy	666	2	9

Water-supply.—There is a large well to the south of the town at a distance of about half a mile, from which water is let into the cistern in the fort by

means of pipes, two inches in breadth. This cistern is divided into three parts by means of two partition walls, and are used by the three different castes, viz., the Brahmins, the Maráthás, and the Musálmans.

Besides the above there are 47 wells, of which 8 are with steps and 39 without them. There are also 12 public wells, of which 9 are with steps and the remaining 3 without them. These are supervised by the Municipality, and are periodically cleaned and repaired when necessary. They were last cleaned 2 years ago.

In addition to the wells there are 2 tanks. They receive their supply from the rain water. One of these, called the Zirpa Taláv, is to the north of the town, at a distance of half a mile, and its water is used by cattle of the town and of surrounding villages. The other tank is on the table-land near the Devi's temple to the east of the town, and also receives its supply mainly in the rainy season. This is used by the people who reside on the same table-land. The supply sometimes falls short of the demand, and then the residents have recourse to the neighbouring wells in fields, or to the public well situated at a distance of ¼ mile from here.

Washing is permitted only in the stream hard by the town and in private agricultural wells.

Drainage.—In one main street only there are gutters. In others and in the side streets there are mere cuttings.

Cess-pools.—There are 7 private cess-pools. These have coverings over them, and are periodically cleaned.

Scavengering.—There are 8 sweepers, 1 mukádam, 1 cart and 1 inspector. The sweepings are removed to outside the town, where they are stored and sold to the cultivators.

Latrines.—There are no public latrines here. There are 8 Municipal sweepers entertained at a monthly cost of Rs. 19. There are 26 private privies, which are served by private sweepers. The refuse is removed to a distance of half a mile from the town.

There is only one Municipal privy.

Urinals.—None.

Markets.—Beef, mutton, &c., are sold in private shops. Vegetables are sold in the space allotted for the purpose, near the Dattatraya's temple.

Burial-grounds.—There are two burial-grounds, one to the south and the other to the west of the town, measuring in all about 2 acres. There were 50 burials during the year.

Cremation Ghâts.—One in the stream to the south of the town. The space measures about 3 acres. There were 93 bodies burnt during the year.

New Works.—One bridge on the road leading to the Devi's temple to the east of the town, having 3 drains, each measuring 3 by 2 feet. The work cost Rs. 375. One common road from the Choteáli to the Devláli Phatak. Its length is about 800 feet and breadth 12 feet. It cost Rs. 60.

A. H. SPRY,
Collector of Sholápur.

SA'TA'RA.

Municipality—SA'TA'RA.

Enumerated Population	Males ...	13,091
	Females ...	11,812
	Total ...	24,903

	Rs.	a.	p.
Annual Income	35,346	15	1
Expenditure on Conservancy	11,561	9	8

Water-supply.—The water-supply of the town is for the most part taken by pipes from the Mahardera tank and from Yavteshvar. The distribution of the Mahardera water is effected by 61, and of the Yavteshvar water by 95 cisterns. There are also 407 draw-wells and 20 wells with steps. There are no cattle troughs. The cattle are watered in the nálas which abound in the town, and in which water remains flowing till the month of March.

There are two tanks used for drinking purposes—the Mahardera and the Mangalwar. Both were originally built with steps, but the steps in the Mangalwar tank have been stopped up. The Mahardera tank has not been cleaned out for many years; but the accumulation of mud is not great. The Mangalwar tank is cleaned out yearly.

There are 9 tanks with steps, from which water may be taken for bathing, clothes-washing, and cattle-watering. Cattle are not allowed to enter the tanks, nor is washing in them permitted. These tanks have not been cleaned out during the last two years.

There are 31 public wells, of which 3 are for the lower classes. In most of these the supply fails in February or March. They have parapets, and two of them were cleaned out two years ago. There are also 396 private wells.

Drainage.—In the streets no side drains of masonry have been regularly built. In some places the inhabitants have built them outside their houses for their own convenience.

Cess-pools.—The cess-pools which exist behind each private privy are cleaned out daily by the Municipality.

Scavengering.—There are 27 dust-bins, which are periodically emptied by 7 carts. The sweepings are burnt, and the ashes are mixed with the night-soil, which is conveyed nightly by 9 carts and 18 men to a depôt (called the Gendámál), one mile from the town to the north, and there buried in pits. The resulting poudrette is used as manure.

Latrines.—There are 33 public latrines on the dry-earth system. Some have 12 seats—some less. There are 1,044 private privies served by the Municipal sweepers. Three iron and six wooden night-soil carts are employed. Iron receptacles are used.

Urinals.—None.

Markets.—The Committee have built shops round the Mándai market-place. Some of these shops are hired from the Municipality by butchers and others. Fruit and vegetables are, as a rule, sold in the open market-places.

Burial-grounds.—There are two burial-grounds—one by the Gendámál, measuring 1,200 feet long and 850 feet broad. The other near the village of Karanja to the north of the town, 445 feet long and 175 feet broad. There is no means of ascertaining the number of burials which have taken place during the year.

Cremation Ghâts.—The cremation ghâts are 4 miles from the town at the village of Máhuli on the River Krishna. There is no means of ascertaining the number of bodies burnt during the year.

New Works.—None.

Municipality—WA'I.

Enumerated Population	Males ...	5,587
	Females ...	5,279
	Total ...	10,866

	Rs.	a.	p.
Annual Income	5,986	7	8
Expenditure on Conservancy	1,951	11	1

Water-supply.—There are no reservoirs for the collection, or cisterns for the distribution, of the water.

The water of the Krishna, which flows by the town, is chiefly used by the inhabitants for drinking, bathing, and washing. Stone dams have been built across the river, and these form pools during the hot weather, the water in which is always muddy, and often offensive to the smell. There is a place for watering cattle to the east of the town. No cattle troughs exist. The next village down-stream is about 4 miles distant.

There are no tanks in the town, and there are two public wells; neither of these are used by the lower castes, who get what water they require from the river. There are 725 private wells.

Drainage.—There are gutters along the main and side streets. These are sometimes built of masonry.

Cess-pools.—There are no cess-pools.

Scavengering.—There are 1 náik, 4 peons, 20 coolies, 3 carts, and 2 dust-bins. The sweepings are taken to a depôt on the north of the town, and are placed in pits and covered with earth. The resulting poudrette is then sold to agriculturists.

Latrines.—There are 6 public latrines on the dry-earth system. Each has 5 seats. Many houses in the Municipality contain private latrines, which are served by the Municipal sweepers. Of these there are 2 peons, 12 coolies with 2 night-soil carts. Bamboo receptacles are used.

Urinals.—None.

Markets.—There are no built markets for flesh; but a market building for vegetables and other articles has been erected by the Committee. This is in good condition.

Burial-grounds.—There is a burial-ground one mile from town to the north. It contains 15 acres, and different parts of it are allotted to different castes.

Cremation Ghâts.—Two on the south-east of the town.

New Works.—None. A scheme is in hand for flooding the pools in the Krishna in front of the town and so improving the water-supply; but this is to be undertaken by Local Funds.

Municipality—RAHIMATPUR.

Enumerated Population	Males ...	3,288	
	Females ...	3,118	
	Total...	6,406	

	Rs.	a.	p.
Annual Income	1,378	2	5
Expenditure on Conservancy	543	13	11

Water-supply.—The water-supply is obtained from two nalás—one on the north and one on the south of the town. In these small wells have been built by the Committee, from which drinking water is obtained. Cattle are watered, and bathing and washing is carried on in the beds of the nálas.

There is one public well, which is used for drinking, and 25 private wells.

Drainage.—In the main streets there are open masonry drains; in the side streets there are mere cuttings.

Cess-pools.—None.

Scavengering.—Four coolies are employed in cleansing the roads. The sweepings are collected and sold.

Latrines.—None.

Urinals.—None.

Markets.—None.

Burial-grounds.—There is a piece of ground set apart for burials in Survey No. 241 to the south of the town, but it is not much used. There are 3

grounds to the south-east and west of the town where most of the burials take place. There were about 54 burials during the year.

Cremation Ghâts.—Two to the west of the town. There were about 70 bodies burnt during the year.

New Works.—None.

CHARLES HENRY JOPP,
Vice-President.

Municipality—SHINGNA'PUR.

Enumerated Population ...	...	Males ...	659
		Females ...	663
		Total...	1,322

		Rs.	a.	p.
Annual Income ...	...	1,851	13	1
Expenditure on Conservancy	...	517	3	3

Water-supply.—There is a tank here, built some years ago, with steps at 4 places. Its circumference is more than half a mile. It provides water for drinking purposes and washing and bathing, and watering and washing cattle are carried on here, except during the Játra days. The tank is filled by surface drainage and by water running down the adjacent hills. In addition to the above tank, there are 12 large public wells with parapets in different places near the town, which are occasionally cleaned out by the Municipality. There are no private wells here. Of the 12 public wells 3 only have steps. Considering the wants of the town in ordinary times and during the Játra, the water-supply may be said to be sufficient.

Drainage.—There is only one main street which has open side drains of masonry. In the side streets there are mere cuttings.

Cess-pools.—None.

Scavengering.—There are 2 sweepers who remove street sweepings to some distance from the town. As there are no persons to purchase these sweepings, the revenue on that account is nil. The Municipality has constructed 2 pits for the reception of the refuse matter of the town.

Latrines.—None. At 4 places to the east and south of the village trenches have been excavated, and are cleaned by the sweepers. These trenches are at the distance of about 1,000 feet from the town. During a greater portion of the year the villagers resort to their fields for easing themselves. The trenches are used during the Játra days.

Urinals.—None.

Markets.—No special accommodation. No regular market is held here. People generally get their things from the village of Náteputa, situated at a distance of 6 miles.

Burial-grounds.— A plot of 5 acres to the north of the town has been set apart for this purpose. There were 36 burials during the year.

Cremation Grounds.—A plot of 5 acres to the north of the town has been set apart for this purpose. There were 5 bodies burnt during the year.

New Sanitary Works.—A new well with parapets was constructed on the road to the Mahadeo temple. A list of works hitherto constructed by the Municipality is appended.

General Remarks.—This is an ordinary small village. An annual fair is held here in honour of Mahadeo, and the gathering at that fair is very large. It is this fair that has given importance to the village. The fair lasts for about one week. A "poll" tax is levied on all pilgrims, and it is the main source of

Municipal revenue. The village is situated on the top of a large hill. During the days of the fair the services of a medical officer are obtained from the Sátára Civil Hospital, and the average expense on this acconut is Rs. 30 per mensem.

Works.—List of sanitary works contructed by the Municipality of Shingnápur from its establishment up to the year 1879-80 :—

9	Dharmsháles	Rs.	5,944
1	Municipal Office	„	2,773
1	Bhawani Ghát	„	5,000
	Total ...	Rs.	13,717

B. G. SATHE,
District Deputy Collector.

Municipality—MHASVAD.

Enumerated Population	Males ...	2,984
	Females...	2,808
	Total ...	5,792

	Rs.	a.	p.
Annual Income	1,900	15	0
Expenditure on Conservancy	149	5	4

Water-supply.—The town is situated on the bank of the River Mán. The water is generally low, and the river is fordable during a greater portion of the year; cattle are washed and watered below the town. Precautions as regards bathing and washing are only taken when the water becomes very low in April and May, but not during the remainder portion of the year. There are no wells in private houses; when the river gets dry during the hot weather, big holes, called "hels," are made in the bed of the river. The depth of these "hels" is generally from 4 to 8 feet. These "hels" are generally found sufficient for the supply of the town. Some of these "hels" are specially reserved for drinking purposes, and neither bathing nor washing is allowed in them. Cattle are watered and washed by drawing out water, and at some distance from the "hels." There are two wells near the town, but the water is not good for drinking.

Drainage.—There are no "pucka" gutters. In the main streets there are mere cuttings, through which water is allowed to run during the rains.

Cess-pools.—None.

Scavengering.—There are 4 sweepers, whose monthly cost is Rs. 12-8-0, and 8 dust-bins. These sweepings are removed to a place at the distance of half a mile to the east of the town.

Latrines.—None. People resort for purposes of nature to the adjacent fields and open places

Urinals.—None.

Markets.—There are no market buildings. People sit on a portion of the main road on the weekly bázár day.

Burial-grounds.—On the south side beyond the river, and at a distance of half a mile from the town, survey number, measuring acres 32 and gunthas 2, has been allotted for this purpose. There were 47 burials during the year under report.

Cremation Ghâts.—Another survey number close to the above, and measuring 26 acres and 14 gunthas, has been set apart for the purposes of cremation, and 50 bodies were burnt there during the year.

New Works.—List of sanitary works constructed by the Municipality of Mhasvad from its establishment up to the year 1879-80 :—

		Rs.
5	Dharmshálas	1,938
4	Hels	1,379
2	Wells	1,700
1	Dispensary	5,549
	Total ...	10,566

General Remarks.—This is a pretty little village on the Sátára-Pandharpur road. An annual fair is held here in the month of Margashirsh (November or December). A large gathering at this time assembles here, and the sale of cattle is large. There is a Dispensary here. Rs. 500 are annually contributed towards it by the Municipality. The Hospital Assistant does the vaccination work of the town. During the days of the annual Játra, trenches are excavated at 4 sides of the town, where the pilgrims ease themselves. These trenches are cleaned by the 4 sweepers. The town is kept pretty clean by the present number of sweepers.

Municipality—MA'YNI.

Enumerated Population	Males ...	1,830
	Females...	1,194
	Total ...	3,024

	Rs.	a.	p.
Annual Income	489	11	4
Expenditure on Conservancy	58	0	0

Water-supply.—A rivulet passes just by the town, which supplies sufficient water all the year round. To the north of the town, at the distance of half a mile, there is a tank newly built by the Irrigation Department. The leakages from the tank serve as good feeders to the rivulet, and therefore the water is never failing. There is a public well, with a parapet and without steps, in the town. It was cleaned during the year under report. There are 54 private wells, and all without steps. Bathing, washing and watering and washing cattle are allowed in the rivulet below the town.

Drainage.—In the open streets there are open side cuttings. No cuttings in side lanes. These gutters are annually cleaned.

Cess-pools.—None.

Scavengering.—There are 2 pits built for the reception of the refuse matter of the village. There is one man to sweep the village streets.

Latrines.—There are no public latrines or private privies here. People resort for the purposes of nature to the other side of the stream.

Urinals.—None.

Markets.—No proper accommodation. The weekly market is held in a street near the Chávdi.

Burial-grounds.—There are 2 plots set apart for this purpose, one to the east and the other to the north of the town, measuring 2 acres and 1 acre respectively. Twenty-five dead bodies were buried during the year.

Cremation Ground.—This is to the north of the town. Thirteen bodies were burnt during the year.

New Works—

		Rs.
5	Dharmshálas	2,131
1	Well	135
1	"Hel"	3
1	Bridge over the stream	701
1	Planting trees	200
7	Lanterns	129
	Total ...	3,299

General Remarks.—This is a pretty little village on the Karád-Pandharpur road. The town is in a good condition. Public latrines are much wanted, and the establishment of sweepers must be increased. The Municipality, however, after paying its fixed and recurring charges, has only a trifling balance remaining, and therefore nothing could be done in the matter.

Municipality—PUSESA'VLI.

Enumerated Population... ...	{ Males ...	1,354
	{ Females...	1,214
	Total ...	2,568

	Rs.	a.	p.
Annual Income	1,076	2	5
Expenditure on Conservancy	196	12	9

Water-supply.—A stream runs close to the town, which affords sufficient water for the wants of the town throughout a great portion of the year. Washing, bathing and watering and washing cattle are done in this nála. There are 2 wells constructed by the Municipality—one is without steps, and the other with steps. The water of these wells is very good, and is extensively used for drinking purposes. There are also 11 private wells in the town. Both the public wells have parapet walls. The water-supply is, on the whole, good.

Drainage.—In the main and side streets there are mere cuttings.

Cess-pools.—None.

Scavengering.—There are 3 sweepers looked after by the Municipal peon. The men sweep the streets, and the sweepings are allowed to accumulate at 4 places, from whence they are removed to a place to the north of the town and sold annually. This year there was no income from this head. There are no dust-bins.

Latrines.—None. People resort to open fields for the purpose of easing themselves.

Urinals.—None.

Markets.—There is a large building for the weekly market, which is mostly occupied by cloth dealers, who pay a small rent to the Municipality. There are also 2 good well-built "otas" plinths where vegetables, &c., are sold. The weekly market is held on Wednesday. The market building and "otas" are kept clean by the Municipal sweepers.

Burial-grounds.—A large field to the east of the town, at the distance of ¼ of a mile, and measuring 22 acres and 26 gunthas, has been set apart for this purpose. There were 21 burials during the year under report.

Cremation Ghâts.—There are no ghâts. Cremation is permitted on the above-mentioned place. Twenty bodies were burnt during the year.

New Works.—None coming under the head of Conservancy. A list of works heretofore constructed by the Municipality is appended :—

	Rs.
2 Dharmshálas	2,305
1 Market	1,108
2 Wells	1,035
2 Steps to a Ghát on the nála	925
1 Dispensary	8,634
1 Road embankment on the side of the nála	286
1 Drainage	15
Total ...	14,308

General Remarks.—This is a pretty large village on the Sátára-Tásgaon road. It is, comparatively speaking, in a pretty good condition, and is kept clean

enough by the Municipality. There is a Dispensary here partly supported by the Municipality and partly from Local Funds. During dark nights the roads are lighted with ordinary lanterns. The Hospital Assistant does the vaccination work of the town. The town wants proper latrines; but, owing to want of funds, nothing was done in the matter.

Municipality—TA'SGAON.

Enumerated Population	Males ...	7,584
	Females ...	4,625
	Total ...	12,209

	Rs.
Annual Income	3,475
Expenditure on Conservancy	847

Water-supply.—There is a stream running through the town. It supplies water during about 10 months in a year for men and cattle. In the last two months, April and May, the supply becomes deficient, or in the year of scanty rain-fall the stream dries up, when holes are made at different places in the stream which supply water. There are wells almost in every house; but the water of most of them being brackish, it is not used for drinking purposes. It, however, serves for the purposes of washing and bathing. There are 2 springs in the stream, with stone work round them, which supply good drinking water. On the whole, the supply may be said to be very good.

Drainage.—In the main and side streets there are open side drains of masonry. In small lanes there are mere cuttings. These gutters were constructed long before the establishment of the Municipality, and are now annually repaired from Municipal funds.

Cess-pools.—None.

Scavengering.—There is one mukádam and 9 coolies, costing monthly Rs. 64, to sweep the town and deposit the sweeping in some appointed place outside the town. There are 8 dust-pits, from whence the refuse matter is carted away by cultivators into their fields. The night-soil is removed to a place at the distance of half a mile to the south of the town. The revenue derived by the sale was Rs. 4-12-0.

Latrines.—None. This work has engaged the attention of the Committee; but, owing to wants of funds, the work has not yet been undertaken. There are 87 private privies, which are cleaned by bhangis engaged by their owners.

Urinals.—None.

Markets.—There is a weekly market held on Monday. There are no arrangements made for a market. People sell vegetable and other things in an open street.

Burial-ground.—A plot of 5 acres to the east of the town, at the distance of half a mile. Fourteen bodies were buried there during the year.

Cremation Ghâts.—A plot of ground, measuring 31¼ gunthas, on the side of the nála at some distance from the town. Fifty-five bodies were burnt.

New Works.—No new works were constructed during the year under report. A large building for the Dispensary is under construction. Roads extend 7 miles and 31,401 feet. They are 27 in number. These roads are lighted by lamps.

General Remarks.—This is a flourishing town. It stands on the eastern border of the fertile Krishna valley and on the important line of traffic from Athni to Karád, called the Karád-Tásgaon road. Its trade is consequently something considerable. It is also the head-quarters of the táluka and the seat of the Mámlatdár's Office, as well as of the Court of a Subordinate Judge. The town is well built. The roads are wider and open spaces more numerous than in most Deccan towns of its size. There is a Dispensary at this place, and the Hospital Assistant vaccinates at the Dispensary.

Municipality—ASHTA.

Enumerated Population	Males ...	5,003
	Females ...	4,893
	Total ...	9,896

	Rs.	a.	p.
Annual Income	886	3	6
Expenditure on Conservancy	336	1	10

Water-supply.—The water-supply is insufficient. There are 4 wells with steps. Neither washing nor bathing allowed in any of these wells. Cattle washed and watered by drawing water There are 3 tanks at some distance from the town, but during a greater portion of the year they are dry. The River Krishna is at a distance of 3 miles from the town, and cultivators having fields near the river take cattle to water there. The water-supply, on the whole, is neither abundant nor very good.

Drainage.—In the main streets there are open side drains of masonry. In the side streets there are mere cuttings.

Cess-pools.—None.

Scavengering.—There are 5 sweepers. No carts and no dust-bins. These sweepers are looked after by the Municipal establishment. Most of the private sweepings are stored as manure, and removed to fields by house-owners. The revenue from street sweepings during the year under report amounted to Rs. 25-8-6.

Latrines.—No public latrines. People ease themselves in open fields at some distance from the town. There are 6 private privies. These are regularly cleaned, and the night-soil is removed at some distance from the town. A privy-tax has lately been sanctioned, the proceeds of which are to be devoted to the construction of privies exclusively.

Urinals.—None.

Markets.—There is a weekly market. For the convenience of the people the Committee have prepared a small market-place for attendance, in which a light fee is levied. The market building is 65 × 20 feet.

Burial-grounds.—None. The matter is under consideration. At present people bury dead bodies in their fields.

Cremation Ghâts.—None fixed. Dead bodies are burnt on the bank of the Krishna River. About 125 dead bodies were burnt during the year.

New Works during the year.—None. Total length of roads is only 15,670 feet. There are 13 lamps maintained at a cost of Rs. 32 per annum.

General Remarks.—The town is an overgrown agricultural village. The area of the town is only 131½ acres, containing 2,500 houses. The streets are narrow and crooked, and the Municipal income is too limited to admit of much being done to improve the town. It is a place of no importance, except as being the seat of a Subordinate Judge's Court and situated on the Peth-Sángli road.

Municipality—ISLA'MPUR.

Enumerated Population	Males ...	4,314
	Females ...	4,076
	Total ...	8,390

	Rs.	a.	p.
Annual Income	2,699	12	11
Expenditure on Conservancy	304	9	9

Water-supply.—The water-supply is obtained from 4 tanks; 3 small ones in the town, 2 of which are old ones, and 1 made by the Committee, with the aid of Local Funds, at a large cost, and a fourth outside the town and about a mile

distant from it. This latter was undertaken as a relief-work during the recent famine from Local Funds, but was subsequently given into the charge of the Municipality. It was formed by throwing an earthern dam across 2 nálas just above their junction, and though the catchment area is not very large, sufficient water is impounded to provide an ample supply to the town. Two of the 3 tanks in the town are supplied from it by means of an open channel, and a project for filling the third, and a few reservoirs by another channel to catch and convey the leakage to the nála, is under consideration. The 3 town tanks have proper steps to get in. Cattle watered by drawing water on the top of the tanks. Washing is also conducted in the same way. All these tanks are in fair order. They have not been cleaned of late.

Drainage.—In the main streets there are open side drains of masonry. In the side streets there are mere cuttings.

Cess-pools.—None.

Scavengering.—There are 3 sweepers. No dust-bins and no carts. The sweepings are taken to a fixed spot at the distance of a mile from the town, and sold there annually to the cultivators. The revenue from this source during the year was Rs. 19-14-0.

Latrines.—There are no public latrines. People ease themselves in open places at some distance from the town. There are 5 private privies, and 2 are provided at the 2 large dharmshálas. All these are regularly cleaned, and the night-soil is removed at a distance to the north of the town; as the quantity of night-soil thus removed is small, it yields no revenue.

Urinals.—None.

Markets.—Weekly market on each Sunday. It is held in an open street. There are no market sheds, &c.

Burial-grounds and Cremation Ghâts.—Two—one to the west and the other to the north of the town. The first measures 1 acre, and the second measures 20 gunthas. In these places both burial and cremation are allowed. During the year under report 63 dead bodies were buried and 121 burnt.

New Works during the year.—Digging a channel for bringing water from the big tank to the town. Accommodation for in-door leper patients in the Dispensary. Planting road-side trees; cutting prickly-pear.

General Remarks.—This is a flourishing town. Its progress has hitherto been retarded by an extremely bad water-supply—a want which has now, however, been supplied. By its position it is marked out for a centre of trade. It is close to the Poona-Kolhápur high road, and another important road from Sángli and the rich Krishna District beyond up to the Poona-Kolhápur road, passes through it. It is also situated on the edge of a fertile and wealthy tract of country, and will eventually be, what naturally is, the capital of the Válva Táluka. The town itself, part of it, is fairly well laid out, *i.e.*, the central part. Much of it is of the same cramped description as most Deccan villages are; but, on the whole, the roads are wider, and open spaces are numerous.

B. G. SATHE,
Extra Second Assistant Collector.

Municipality—MALCOLM PETH.

Enumerated Population.—The total population within Municipal limits, according to the Census of 1872, was 2,759; when the Village Officers enumerated the population at the commencement of the Revenue year 1879-80 it amounted only to 1,423, viz., 682 males and 741 females, including boys and girls. The difference of 1,336 is attributable to the circumstance that during the monsoon only permanent residents remain.

Annual Income.—The consolidated income of the Station Funds and Municipality amounted to Rs. 12,602-2-11 during the year. The case of this Municipality

is an exceptional one, and differs, in many respects, from others. The income of the Station Funds is amalgamated with that of the Municipality, which was started in 1867, with the express object of augmenting the Station Fund receipts by the imposition of the wheel, horse and conservancy taxes. It is thus very difficult to select purely Municipal items from the incorporated account; but the following figures may be taken to represent the revenue from all the chief sources of Municipal income for 1879-80:—

	Rs.	a.	p.
Horse and wheel-tax	1,553	0	0
Conservancy tax	190	0	0
Import duty	479	11	0
Rent of markets	509	12	0
Do. of open ground	12	0	0
Municipal fines	58	4	6
Total ...	2,802	11	6

Expenditure on Conservancy.—The expenditure under this head amounted to Rs. 824-4-8, which included the construction of 6 dust-bins at a cost of Rs. 162.

Water-supply.—Besides the Yenna Lake, which borders on the Municipal limits and affords a plentiful supply of water for the men and cattle, there are in the station 3 small well-built tanks; 27 public and 33 private wells, from the majority of which an abundant supply of good drinking water is always obtainable: there are also several running springs, which are occasionally used for irrigation and other purposes. The greater number of the public wells were cleaned out during the year under review.

Drainage.—On this point it must be explained that the bázár is situated on an undulating slope, extending from the elevated ground on the north, with a gradual descent towards the south, thus affording a good natural drainage; there are closed masonry drains in the streets of the bázár, with an open inlet and outlet on either side. These are cleaned annually when the roads are repaired.

Cess-pools.—None.

Scavengering.—The duties connected with the conservancy of the station are performed by a staff of sweepers and cart-men under the supervision of an inspector; the sweepings of the bázár and different compounds are regularly carted out of the station to a considerable distance where pits are dug, in which all the accumulations are deposited, and periodically disposed of for agricultural purposes. Six dust-bins have been erected in convenient localities in the bázár, in which all refuse matter is deposited until its removal by the cart-men, who clear them all out daily.

Latrines.—There are 6 public latrines with 48 seats; 2 sweepers are permanently entertained to look after them; but during the hot season, when the population is considerably increased, a third is added temporarily. There are 29 private privies in the bázár. The towns-people generally erect temporary sheds of kárvi in the rear of their houses whenever necessary, which serve them as privies, and these are cleaned out by bhangis specially employed by them for the purpose. All the bungalows on the hill have private privies for their servants. Iron receptacles are used in the public latrines; but there are no iron night-soil carts.

Urinals.—None.

Markets.—In the centre of the bázár is the vegetable market, consisting of 17 compartments, which are annually rented, and afford sufficient accommodation for the sale of vegetables. The mutton and beef markets are removed some distance from the main street, and are ample for the requirements of the station. All the markets are carefully looked after.

Burial-grounds.—There are 4 burial-grounds within the Municipal limits, viz., the Protestant and Roman Catholic Cemeteries and the Chinese and Musálman burial-grounds; these are situated at short distances from the bázár.

Besides the above, there is a burial-ground for the Musálmans situated within the limits of the adjoining village of Sindola, about a mile and a half from the town of Malcolm Peth, on the Sátára road. Lingayats inter their dead in

a site specially set apart for them near the Yenna Lake, within the limits of the Mahábaleshvar village. There were 43 burials during the year.

Cremation Ghâts.—The cremation grounds for the use of Brahmins and other Hindus are near the Yenna Lake. There were 9 dead bodies burnt during the year.

New Works during the year.—The vegetable market was iron-roofed and otherwise improved during the year at a cost of Rs. 1,559-6-10.

Superintendent and Vice-President,
Malcolm Peth Municipality.

BELGAUM.

Municipality—BELGAUM.

Enumerated Population...	...	Males			10,394
		Females			9,657
		Total ...			20,051
			Rs.	a.	p.
Annual Income ...	...	Municipal Income...	27,905	11	5
		Local Funds ...	576	0	0
		Total ...	28,481	11	5
Expenditure on Conservancy ...	...	...	12,219	7	9

Water-supply.—The water-supply of the town is obtained from wells. There are 11 public wells in all; but 3 of the larger wells and about 2,500 private wells supply the inhabitants with drinking water. In bad seasons, when the rain-fall is short, most of the private wells fail, and all the public wells are then largely resorted to. Some of the richer inhabitants obtain their drinking water from the "Nagzeri Springs," situated about a mile south-west of the town. The public wells are repaired once a year, and the water is kept clean by the surface matter, such as flowers or leaves or sticks thrown in by boys being removed once a month. All the public wells were, as usual, cleaned out last year.

Drainage.—Some of the main roads are provided with open side drains or gutters of masonry, and in others the gutters are mere earth cuttings. Some of the gutters are covered over with curb stones, and these are opened annually and cleaned out and the curb stones replaced.

Cess-pools.—There are no cess-pools in this town.

Scavengering.—There are 17 male and 13 female road sweepers, 12 dust-carts and 45 dust-bins. The road sweepings, consisting of grass, dry leaves, ashes, &c., were taken and deposited in vacant spots of ground on the north and south of the town, a short distance away, and were sold to cultivators as manure, which realized last year Rs. 470; but this accumulation was of two or three years' standing, and was sold in lots to different cultivators.

Latrines.—There were four blocks of public latrines cleaned out by bhangi contractors at a cost of Rs. 70 monthly. The halálkhor cess was partially introduced during the year. There were 9 male and 2 female bhangis entertained in cleaning out private privies of such of the inhabitants as paid the halálkhor cess. The night-soil is carried away by the contractors on 4 barrel carts, and the Municipality employ 2 iron-cylinder carts to clean the private privies. The night-soil is conveyed away to a place about a mile and a quarter to the north-east of the town and deposited in pits there.

Urinals.—None.

Markets.—There are good stalls for the sale of beef, mutton, fish, and vegetables. Some of the stalls are paved, and others are mud-floors, which are swept and kept clean daily and cow-dunged once a week or so. They are built with good plinths, and all the butchers' shops are repaired and white-washed once every three months, and the vegetable market building once a year. There is a slaughter-house attached to the mutton-butchers' stalls, which is washed and cleaned out daily.

Burial-grounds.—There are no burial-grounds under the charge of the Municipality; but there are three cremation and burial-grounds, situated one on the north, one on the south and one on the east of the town, which the people of the town use. There were 265 bodies burnt during the year.

New Works.—The following new works were constructed during the year:—

	Rs.	a.	p.
1 Piece of road in the town with masonry side gutters	518	2	3
1 Block of public latrines in Moojawar Gulli	945	10	1
12 New masonry dust-bins	145	11	11
Bhangi passages to private privies in different parts of the town...	113	4	6
Total of new works ...	1,722	12	9

E. T. RICHARDSON,
Chairman, Belgaum Municipality.

Municipality—ATHNI.

Enumerated Population	Males ...	5,734
	Females ...	5,623
	Total ...	11,357

	Rs.	a.	p.
Annual Income	8,160	11	2
Expenditure on Conservancy	2,717	3	7

Water-supply.—There are two tanks, one with steps, reserved for drinking purposes, and the other, without steps, for cattle-watering and washing. The former was cleaned out and built by the Municipality some years ago.

There are 111 wells (public and private), of which only 14 afford drinkable water. Of the total number of wells 65 are draw ones, and the rest are provided with steps. Six public wells were repaired during the year. Many of the wells fail during the hot season.

Drainage.—None.

Cess-pools.—None.

Scavengering.—There are 2 mukádams, 1 inspector, 16 coolies, 3 carts, and 30 dust-bins. The sweepings are taken to and deposited in trenches round the fort in the town, with the view of filling them up.

Latrines.—No public latrines. But there are 3 public privies attached to the office and dispensary, and 32 private privies served by 8 Municipal scavengers. Also there are 27 deep pits near houses used for privies by private persons.

Urinals.—None.

Markets.—There is a good market for vegetables, which is well looked after.

Burial-grounds.—Two on the east for Lingayets, 1 on the north for Mahomedans, and 1 on the south for the rest.

Cremation Ghâts (grounds).—One on the south.

New Works.—One public well. The original works completed during the years previous to the one under report are the following:—One market, 1 dispensary, 1 tank, 4 wells, 30 dust-bins, 3 privies, and roads of the aggregate length of 9 miles.

1. Athni Municipality is the best managed of the 3 under the charge of the undersigned.

2. The chief want is public latrines, which will be taken in hand very shortly.

3. After the latrines are provided for, the question of water-supply will engage the attention of the Municipality.

Municipality—NIPA'NI.

Enumerated Population			9,371
	Rs.	a.	p.
Annual Income	7,656	10	0
Expenditure on Conservancy	1,154	6	4

Water-supply.—There are 6 cisterns which, during the hot season, contain a small quantity of water. Measures are being taken to ensure a greater supply of water in the tank, upon which the cisterns depend for their supply. There are 4 tanks—2 with steps and 2 without steps. Of these 2 are used for drinking purposes, and were last cleaned out in 1877-78. Of the 4 tanks 2 have living springs in them, and the other 2 are filled by rain water. In addition to these there are 3 public wells, all of which were last cleaned out during the late famine. There are also 9 private wells. Of all the wells only 2 afford drinkable water, and 5 are well-built and provided with steps.

Drainage.—None.

Cess-pools.—Two.

Scavengering.—There are 16 coolies. Sweepings are taken to the two cess-pools, where they remain till the agriculturists buy them up.

Latrines.—None.

Urinals.—None.

Markets.—None.

Burial-grounds.—Two on the east of the town. Their limits have not yet been prescribed.

Cremation Ghâts.—Two on the east of the town.

New Works.—Three tanks and roads of considerable lengths.

Municipality—YAMKANMARDI.

Enumerated Population	Males ...	2,674	
	Females ...	2,622	
	Total ...	5,296	
	Rs.	a.	p.
Annual Income	759	0	0
Expenditure on Conservancy	293	13	8

Water-supply.—There is a tank well-built with steps. The whole town depends upon it for its drinkable water. It never fails. A sepoy, at Rs. 3 per mensem, is stationed there specially to prevent the fouling of water. There are 20 private wells, of which 17 are draw-wells. They are used for domestic purposes.

Drainage.—None.

Cess-pools.—None.

Scavengering.—There are 6 coolies and 1 mukádam. The sweepings are taken a great way off from the town and left there.

Latrines.—None.

Urinals.—None.

Markets.—None.

Burial-grounds.—Two on the south—one for the Mahomedans and the other one for the Lingayets.

Cremation Ghâts.—One on the north of the town.

Original Works.—Roads of considerable length.

RANGRAO BHIMAJI,
Vice-President.

Municipality—GOKA'K.

Enumerated Population	Males ...	4,198
	Females ...	3,888
	Total ...	8,086

	Rs.	a.	p.
Annual Income	5,641	1	7
Expenditure on Conservancy	2,304	6	0

Water-supply.—The water-supply is drawn from the River Ghatprabha, which receives the waters of the Márkándeya about ⅝ of a mile above the town, and flows past the north side of the town in a north-easterly direction. There are 20 drawing wells and 9 step-wells. The well water is, with a few exceptions, brackish, and is only used for ordinary domestic purposes. The river water is chiefly used for drinking purposes, and is drawn from the river before it passes the town. Just below the town there is a ford, and here the water is sadly polluted both by the passage of travellers and by this place being used as a bathing-stand for cattle. It is to this place also that the dyers, of whom there are a large number in Gokák, bring their dyed yarns to wash them in the cold water of the river. Except at this place, it is forbidden to water or wash cattle; but I am afraid this rule is not strictly adhered to. The next village down-stream is about one mile distant. Of the 29 wells 3 are public wells, and are cleaned out periodically by the Municipality. The remaining 26 are private wells.

Drainage.—In the main streets there are rectangular open side drains of masonry; in the side streets there are mere cuttings. In the quarters of the dyers there are covered masonry drains for conveying the refuse dyeing stuff and liquid to three masonry receptacles, which are regularly cleaned out by the Municipality.

Cess-pools.—Nearly every house has a cess-pool for the reception of the refuse domestic water. These are cleaned out by the owners.

Scavengering.—There are 3 mukádams, 20 coolies, 2 carts, and 12 dust-bins. The sweepings are conveyed outside the town to pits, where they are allowed to accumulate, and are annually sold by auction. In the year under report Rs. 2-8-0 was realized.

Latrines.—There are 8 public latrines containing 50 seats. There are 8 bhangis who remove the night-soil in baskets to a valley on the west of the town. The Municipal bhangis do not serve the private privies in the town.

Urinals.—None.

Markets.—None.

Burial-grounds.—There are 10 survey numbers in which burials are allowed to be made. These are situated to the east of the town. During the year under report there were 157 burials.

Cremation Grounds.—There are two pieces of ground which are used for crematory purposes during the rainy season. One of these is to the east, and the other to the west of the town. In the fine weather cremations are carried out in the dry bed of the river, below the town. During the year under report 77 bodies were cremated.

New Works.—Nil.

GILMOUR McCORKELL,
Second Assistant Collector and Vice-President.

Municipality—SAUNDATTI.

Enumerated Population	Men ...	3,132
	Women ...	3,274
	Total ...	6,406

	Rs.	a.	p.
Annual Income	1,692	9	0
Expenditure on Conservancy	758	10	11

Water-supply.—There are no impounding reservoirs, either private or belonging to the Municipality. The water-supply is derived chiefly from drawing-wells in the town. People also derive their supply for watering cattle from the same wells. Generally people derive their supply of water for bathing, washing their clothes, and for such other purposes from the wells with steps, situated at the foot of the hills, and the tanks situated in the same locality outside the Municipal limits.

There are no tanks, with or without steps, belonging to the Municipality. There are two public drawing wells in Municipal limits; persons of all castes, except the lowest, are allowed to draw water from these wells; some low-caste people get water drawn for them by those of a higher caste, and receive the same from them and take it home. Generally low-caste people bring water from outside Municipal limits. The abovementioned public wells have been properly built and parapet walls breast-high have been built round them of bricks and cement. The water in these wells never entirely fails, and people get a sufficient supply from them. The abovementioned two wells belonged to one Patraya Murgod, an inhabitant of Saundatti. They have been taken over by the Municipality with his consent, and have been finished off, as described above, by the Municipality. From what Patraya says it appears that the wells were cleared four or five years ago. Besides these, there are two large wells with steps in the town, built with round unhewn stones. The water in these wells is generally used by people for watering cattle. The water in the Aladkati well (which is one of the above two) is brackish, and is occasionally used for purposes of cooking. This well is surrounded by a wall of stones and earth breast-high, which was built by the Municipality. Plantain trees and flowers have been planted in the ground surrounding the well, and the ground has been kept clean. There are also nine private drawing wells.

Gutters.—In fifteen of the principal streets there are open gutters built of stone. In the cross lanes there are gutters sunk in the earth, but not built with masonry.

Cess-pools.—There are no cess-pools in this Municipality.

Scavengering.—There are eleven street sweepers who sweep daily and throw the refuse away at a distance of a quarter of a mile from the town. The manure

is sold to cultivators every year. This year manure of the value of one rupee only was sold; the remaining manure was not purchased by any body. The clerk and peons superintend the work done by the sweepers.

Latrines.—There are no public privies. There are about 44 pit privies. When they become full, they are closed, and privies are dug in other places. There are no bhangis in the town for taking the filth out of the privies.

Urinals.—There are no urinals either private or belonging to the Municipality.

Markets.—Vegetables, &c., are sold in the town bázár, and the place where the bázár is held is kept clean. Mutton and fish, &c., are sold by butchers, &c., in places situated outside the gates of the town.

Cemeteries.—The Municipal limits being fully inhabited, no cemeteries have been made by the Municipality. But it appears from the Village Records that Survey No. 46, measuring 1 acre and 6 gunthas, to the south of the town, has been allotted by Government, and the people are allowed to bury and burn corpses there. Besides this they also bury, &c., in Survey Nos. 2, 6 and 45. It appears from the Register of Births and Deaths of the Village Officers that 145 corpses were buried in the year under report.

Cremation.—Except Survey No. 46 and Nos. 2, 6 and 45, there is no ground set apart by Government exclusively for burning corpses. It appears from the Register of Births and Deaths kept by the Village Officers that 33 corpses were burnt in the year under report. No ground has been fixed by the Municipality for the above purpose. Steps are now being taken to select a spot in another place for the purpose.

New Works.—No new work has been carried out by the Municipality this year. Repairs have been effected to the road in front of the Court and to the wells belonging to Patraya.

Municipality—YELLAMMA'S HILL.

Enumerated Population.—The Yellamma's Hill is situated in the limits of the lands of the village of Ugargal, but does not include the village site. The Municipality is only a temporary one, and was not formed with any reference to the number of inhabitants. The people who visit the hill on account of Yellamma's Fair number about 100,000 in the year. There are no permanent inhabitants in the Municipal limits.

	Rs.	a.	p.
Annual Income	2,849	6	0
Expenditure on Conservancy	168	11	7

Water-supply.—There are five wells with steps in the local limits of the Municipality. They were built of stones and cement out of the Yellamma [redacted] which existed before the Municipality was formed. The water in th[redacted] issues from springs, and is sweet. In the rains, and even in the hot weather, there is plenty of water in them, and people going to, and returning from, the hill get an ample supply from them for bathing and drinking. No want of water is felt, and bathing and washing is done at the top of the wells with water taken out of them. Besides these there are two streams, in which people wash their clothes. Besides the above-mentioned five wells, there is a pool of water called Yenigonda, a few feet square, which is supplied from a spring in the hill. Close to this there is another pool, called Arashangonda, which, till it was improved, was about 30 feet in diameter, and contained about 3 feet of water. The excess of water, after the pool is filled, flows into the brook. The water in the Yenigonda is used by all people for drinking. It is also used for worshipping the goddess. The people attending the fair bathe and also wash their clothes in the Arashangonda, and therefore this water is not used for drinking purposes. As the people were crowded and inconvenienced while

bathing in the pool, it has been improved and made into a rectangle, 18 feet long by 14 feet wide and 5 feet deep, and masonry steps are being built on three sides of it. All the wells are cleared out every year.

Gutters.—There are open gutters, built with stone, in the principal thoroughfare. The cross-lanes are very small, and no gutters have been built in them.

Cess-pools.—There are no cess-pools in this Municipality.

Scavenging.—An establishment, partly permanent and partly temporary, of from 30 to 40 Mahárs is kept for the purpose of sweeping, and the peons and the clerk on the permanent establishment, and also the chairman, superintend the work done by them. The sweepings are burnt, and the ashes are thrown out on the hills at the distance of about one-quarter of a mile from the temple. The cultivators do not find it convenient to remove the accumulation, and no person bids for it; accordingly no income is derived from it.

Latrines.—There are no latrines and no public or private privies on the hill. People go to answer the calls of nature to a place at the distance of half a mile from their halting place; a spot has been allotted there for the purpose.

Urinals.—There are no urinals.

Markets.—There are no markets built by the Municipality. To the south of the temple there are about 10 or 15 shops, in which trade is carried on. Besides these, there is a place in the eastern part of the bázár, behind the temple of Matangi, where mutton is sold. Arrangements are made to clean the place from time to time.

Cemeteries.—No ground has been fixed within the limits of the Municipality for a cemetery. If any one dies, the corpse is carried to a distant part of the hill, and is buried there. There is no necessity for making a cemetery, as there are no permanent residents on the hill.

Cremation Ghâts.—There are no cremation ghâts. If any one dies, the corpse is carried to a distance on the hill and burnt there.

New Works during the year.—During 1879-80 repairs have been effected to roads and to Dharmshálas, and the rock round the Yenigonda has been blasted and the ground made even. No other new works have been carried out.

Details of new Works which are now being carried on.—Completion of the improvement of the Arshangonda. The making of a road leading from the Ugargal road to the Dharmshála. The making of a road from the Manganbhavi and Ugargal road to the market. A bridge over the nála on the Ugargal road near the Patar well.

Drains on the nálas on the east and west of the temple, so that dirty water may not accumulate there.

J. F. FLEET,
Assistant Collector, in charge
First Assistant Collector's Office.

Camp Kittúr, 8th April 1881.

DHA'RWA'R.

Municipality.—NAVALGUND.

Enumerated Population	Males ...	4,783
	Females ...	4,795
	Total ...	9,578

	Rs.	a.	p.
Annual Income	5,556	3	10
Expenditure on Conservancy	867	1	6

Water-supply.—Adjoining the town is Neelowa's Tank. By the expenditure of Municipal and Local Funds a good reservoir has been constructed for

storing rain water. From this reservoir clear water flows over into the tank, which contains water more than enough to supply the town for a year. Sidramashetti, a Municipal Commissioner and Sowkar (banker), has, out of his own private means, built a tank on the south-west side of the town. Some of the neighbouring inhabitants take water from it. There are two streams—the Benninála and the Tuparinála—on the south and west sides of, and at the distance of nearly one mile from, the town. In the former the water is brackish, except in the rainy season when it is fresh; that in the latter is always sweet. These streams are used for bathing and washing purposes and for watering cattle. There are two sweet water wells, and, besides these, there are many wells of brackish water in the town. There are no dipping wells.

Drainage.—In the main streets there are open side drains of masonry ; in the side streets there are mere cuttings.

Scavengering.—Garbage and rubbish are stored in dust-bins placed on the sides of roads, and are removed by means of sweepers and carts. There are altogether 20 sweepers and 2 carts and 2 pairs of bullocks and 2 drivers. This completes the scavenging establishment. Rubbish is removed from within the town by means of carts, and is deposited outside the town. A portion of the rubbish is used in filling up the small cracks and pits on the roads, and the remainder is deposited outside the town and sold by auction to cultivators. The income derived from it was Rs. 4-3-11. The annual cost of the establishment is Rs. 696.

Latrines.—There are no public latrines. Some of the inhabitants have dug pits within the limits of their backyards, and these pits they use as latrines. The majority, according to the custom of the country, go to the fields.

Urinals.—None.

Markets.—None.

Burial-grounds.—Lingayets are buried in the "Matha" on the south side of the town. No particular ground has been selected for this caste.

Cremation Ghâts.—There are no particular ghâts used for the purpose. Brahmins and others (whose custom it is to burn their dead) burn the bodies on a part of the bank of the Benninála on the north side of the town. The actual number of persons buried and burnt cannot be ascertained, as there are no registers kept specially for the purpose. This will be attended to in future.

New Works.—The following new works were executed by the Municipality at a cost of Rs. 3,403-13-10 during the year 1879-80.

1. Construction of the Ron and Hubli road within Municipal limits.
2. Constructing a road within Municipal limits to join the Padeseer road.
3. Constructing a road from the Cotton Gin Factory to the Shettar Tank.
4. Improving the Nargund old road by constructing gutters on both sides.

Lighting.—The town was not lit in 1879-80. In 1880-81 the town was lighted at an estimated cost of Rs. 276 a year.

The establishment of a Dispensary is urgently needed, and is desired. No Dispensary is available within 21 miles, and the establishment of one at Navalgund will greatly benefit the people. A rough estimate of about Rs. 5,000 has been made for the construction of the building. A sum of Rs. 4,000 has been, by the President's order, reserved for the construction of this Dispensary. The building should be erected under the supervision of the Municipality.

Municipality.—NARGUND.

Enumerated Population	Males ...	5,068
	Females .	4,863
	Total ...	9,931

	Rs.	a.	p.
Annual Income	2,901	0	6
Expenditure on Conservancy	575	4	0

Water-supply.—On the west side of the town there are 2 tanks, named Kumbargatti and Padawagonda, which join together. The people use the water of these tanks for drinking and other purposes. When these tanks are once filled, the water lasts for a year and a half. Scarcity of water is seldom felt. The annual proceeds of the Annachatra Funds are kept in deposit, and are now spent in improving the water-supply of the town. The Kumbargatti tank has been deepened by expending money from the aforesaid funds. The tank has been completed, and a scheme for laying pipes from this tank to the "Halbhavi" tank has been proposed. Public contributions to the extent of Rs. 5,000 are asked for to carry out the scheme. The Turanabhavi tank, situated on the eastern side of the town, was sunk some 6 or 7 years ago, and the supply of water therein lasts for 7 or 8 months. The people living on that side of the town use its water for drinking and other purposes. There is also another tank, named "Basawan" tank, on the same side, and the supply of water therein lasts 5 or 6 months. On the south of the town there is a tank called "Halbhavi," which is not in good repair. The water in it lasts 4 or 5 months. It is seldom used for drinking purposes. Adjoining this there is another tank called "Belwatgi" tank; the water in it is used for watering cattle. Besides these there are two tanks on the east and north side of the town called "Totadakeri" and Kempkeri; the former is used for watering cattle, and the latter for drinking purposes. There are 15 draw wells of brackish water, and one dipping well of sweet water. Besides these there are two draw-wells of sweet water, named "Kalikukkanabhavi" and "Ratibhavi."

Drainage.—In the main streets there are open side drains of masonry; in the side streets there are mere cuttings.

Cess-pools.—None.

Scavengering.—Garbage and rubbish are stored in dust-bins placed on the sides of the roads, and are swept by sweepers, who are entertained by the Municipality. Two carts are hired annually to remove the contents of the dust-bins. Rubbish is deposited outside the town, and is sold by auction once a year. The income derived from it in 1879-80 was Rs. 31. The contractor removes the garbage and rubbish from the dust-bins by engaging about 20 men at his own expense. This work is supervised daily by the Municipal authorities. The annual expenditure for this purpose is about Rs. 600 in all.

Latrines.—There are no public latrines. Some of the inhabitants have pit privies in their compounds. The majority, according to the custom of the country, go to the fields.

Urinals.—None.

Markets.—None.

Burial-grounds.—There are five villages within the limits of the Town Municipality of Nargund. The following burial-grounds have been selected for each village.

(*a*). Kasba Nargund, 2 acres and 17 gunthas out of Revenue Survey No. 208, were selected in the year 1869 as a burial-ground. This ground is to the south-east of the town.

Dandapur.

(*b*). Revenue Survey No. 1, consisting of 30 acres and 22 gunthas, has been selected as a burial and burning ground, where all classes of people, except Mahomedans, burn and bury their dead. For Mahomedans a separate Revenue Survey No. 191, consisting of 3 acres and 13 gunthas, has been specially reserved. These grounds are to the south of the town.

(*c*). *Mauze Peita.*—Four acres out of Revenue Survey No. 181 have been selected as a burial and burning ground, and it is situated on the north side of the town. This ground is used by all classes of people.

(*d*). *Arban.*—The whole of Revenue Survey No. 115, consisting of 28 acres and 34 gunthas, has been selected as a burial and burning ground. It is to the south side of the town.

(*e*). *Somapur.*—Out of Revenue Survey No. 281 about 3 acres of land have been reserved as a burial and burning ground. It is to the north of the town, and is used by all classes of people. The actual number of persons buried and burnt cannot be ascertained, as there are no registers kept specially for the purpose. This will be attended to in future.

New Works.—The following new works have been constructed during the year under report:—

1. Constructing gutters along the new road from "Sunnàda Agasi" to Kempa Agasi, at a cost of Rs. 181-9-8.
2. Constructing a road from the Library to the Girls' School—Rs. 317-10-5.

Lights were badly wanted during the year under report. This work will be undertaken during the current year at a cost of Rs. 100.

Municipality.—DHA'RWA'R.

Enumerated Population	Males ...	11,594
	Females ...	11,702
	Total ...	23,296

	Rs.	a.	p.
Annual Income	21,272	7	5
Expenditure on Conservancy	„ 4,950	4	8

Water-supply.—The town of Dhárwár is mainly supplied with water for drinking and other purposes from two tanks (or talávs), known respectively as the "Moti" and the Bágh "Talávs," which have steps. They are in good repair; are cleaned out periodically. They are filled by surface drainage.

There are 8 tanks without steps, and in some of these bathing and the washing of clothes are permitted, and in the other cattle are washed and allowed to drink water.

They are in fair order. A new source of water-supply, though not yet in active operation, has been for some few years past in process of completion. The reservoir now finished is situated to the west of the town, and is constructed so as to catch the rain water from the high lands. Rs. 36,000 was granted by Government to the Municipality for the purpose of making the tank and improving the water-supply of the town. It is estimated that a further sum of Rs. 50,000 will be required to lay down pipes for the proper distribution of water throughout the town. In addition to tanks there are 7 public wells, and 5 of them are for the lower castes. They are well built, and have parapets and platforms, but they contain brackish water, and partly dry up in the hot season.

To this, however, a large well begun in 1846, by Ráo Bahádur Venkatrao, for the public use, and subsequently completed by his son, the present Ráo Bahádur Tirmalrao, must be considered as an exception. The supply from this well is reported to be plentiful and good, and it does not dry up in the hot weather.

The water used by the European residents is brought from a well near the present Civil Surgeon's compound. Its water is very good, and the well is a public one. There are also 280 private wells in the town of brackish water.

Drainage.—In the main streets there are open side drains of masonry; in the remaining there are only cuttings.

Cess-pools.—None.

Scavengering.—There are 2 mukadáms, 57 coolies, 7 carts, 7 scavengers, 2 Sanitary Inspectors, 7 peons under the Sanitary Inspectors, and 40 dust-bins.

Garbage and street sweepings are removed by carts to a spot on the west of the town, where it is annually sold by auction for manuring purposes.

Latrines.—There are but 2 latrines on the dry-earth system throughout the entire town—one has 7 seats and the other has 36 seats. They are looked after by sweepers; the sweeping establishment is (7) in number.

The night-soil is removed by sweepers in baskets to a spot outside the town to the south of the Bágh Taláv; there it is thrown into deep pits, and afterwards sold as manure to such persons as may require it.

Pit privies are used throughout the town; these are about 2,500 in number.

Urinals.—There are 2 urinals in the town near the Táluk Kacheri.

Markets.—There are no private markets in the town of Dhárwár. There is one public market situated near the Moti Taláv. The income from the rental of the shops, &c., in this market is about Rs. 1,000 annually. Thirty other shops are now in course of construction, and these, when ready and rented, are calculated to bring in further a sum of Rs. 500 annually.

There are good sheds for the sale of vegetables. The market shops have plinths, and are well looked after.

Burial-grounds.—Two on the north side of the town—one of 1 acre, and one of 2 acres.

Three on the south-west of the town—one of 2½ acres, and two of 3 acres each.

There were 320 burials during the year.

Cremation Ghâts.—One below the town on the north, 2 on the south-west are below the town. There were 318 bodies burnt during the year.

New Works.—Eight dust-bins, 40 yards of masonry drains, 8 yards of masonry drains near Malapur, and the construction of 5 toll-bars. Making new roads in the Háveri Peth. The construction of one latrine. Repairs to gutters, drains and bridges.

Lighting.—There are at present but 82 street lamps of all descriptions within Municipal limits. Kerosine oil is used, and the annual expense of lighting is about Rs. 1,000.

The roads and streets are not watered in this town.

C. P. B. WILTSHIRE,
Chairman, Dhárwár Municipality.

KA'NARA.

Municipality—KA'RWA'R.

	Males.	Females.	Total.
Enumerated Population as per Census of 1872 ...	7,079	6,184	13,263
Ditto ditto of 1881 ...	6,560	6,557	13,117

	Rs. a. p.
Annual Income	... 10,108 15 5
Expenditure on Conservancy	... 3,285 6 0

Water-supply.—There are seven masonry public wells, enclosed with parapet walls, which contain water throughout the year. They are cleaned out periodically towards the end of the dry season. There are two tanks, with masonry walls, used for watering cattle, one of which is also used for bathing purposes. Besides these there are numerous private wells of masonry. The poorer classes obtain water from pits dug in the sand and earth.

The quality of water obtained from the sandy soil is good.

Drainage.—In the main bázár there are open masonry side drains, but in the back streets and lanes gutters exist, which are cleaned and swept out daily. Cess-pools are permitted to be kept in the back of the main Bázár Street. The filthy water is removed daily at the cost of the house-owners using the cess-pools.

Scavengering.—The establishment noted in the margin is retained. The night-soil is conveyed from the latrines in a closed iron cart twice daily and deposited in a pit, which is daily covered over with earth. Fresh pits are dug as the old ones become filled. These pits are about 1½ miles distant from the town and bázár.

1 Inspector.
1 Mukádam.
8 Latrine Sweepers.
8 Road Sweepers.
3 Cart-men.

Latrines.—There are 5 public latrines, of which 4 have 14 seats each, and the fifth 10 seats. They are provided with dammered deal-wood receptacles, which are cleaned twice daily. These wooden boxes have been found to answer better than iron receptacles, which corrode very quickly, and are more expensive.

Eight sweepers are employed in cleaning the public and private latrines; of the latter there are about 60. For this service, which is entirely voluntary, the Municipality derives an income of Rs. 60 per mensem.

For the sweepings of the town and bázár, 1 cart and 4 sweepers are employed. These are removed to a Municipal cocoanut garden, where they are burnt daily, and utilized as manure for the garden.

Urinals.—None.

Markets.—There are two market sheds—one is used daily for sale of meat and fish; the second is only used on Sundays, where a general market is held for the sale of grain, oils, and all kinds of produce. This market is largely availed of throughout the day.

Burial-grounds.—There are burial-grounds at Baithkol and Sunkerri, which are at considerable distances from the town. The cremation grounds are also in suitable localities and to the leeward of dwellings.

New Works.—The main Bázár Street has been improved by an open masonry paved drain on both sides at a cost of about Rs. 900. Some low ground close to the town has been raised.

H. INGLE,
Superintendent and Vice-President,
Municipality, Kárwár.

Municipality.—HALIYA'L.

Enumerated Population	Males ...	2,601
	Females...	2,470
	Total ...	5,071

	Rs.	a.	p.
Annual Income...	4,992	2	4
Expenditure on Conservancy	781	0	8

Water-supply.—There are 2 tanks and 6 wells with steps, and 2 wells without steps. Out of these 8 wells, there are 4 of spring water. The tanks and wells fill by surface drainage. These are reserved for drinking and domestic purposes, and are built out of Government and Municipal Funds. These are in good repair, and cleaned out periodically. The above noted 4 spring water wells are cleaned out annually. The other tanks and wells, which fill by surface drainage, cannot be cleaned out annually. When there is scarcity of rain, 2 or 3 of these are cleaned out yearly. They were last cleaned out 2 years ago. Different places have been fixed for drinking and domestic purposes and for bathing, washing and cattle-watering: and due precautions have been taken with regard to them.

There are no parapets to the 4 wells which fill by surface drainage. The two above-mentioned tanks are called—one the "Kempahonda," and the other "Motitaláv."

"Kempahonda" is a tank surrounded with a parapet wall, and two passages with steps have been kept to the east and west of it for carrying water.

"Motitaláv" is larger than "Kempahonda." To the east, west and south there are walls of mettle stone to it, and to the north there is an earthen band. To the south and north two passages have been made with steps to enter the tank and carry water.

Above the town a highland place is specially reserved for impounding reservoirs, from which the water is brought to Motitaláv. Every kind of nuisance is forbidden there. The gutters leading from the highland to the town are built up with stones and kept open. The gutter which leads to "Kempahonda" is well-built of stone and chunam masonry. It is covered so that dirty water from outside should not enter it. The gutters leading to "Motitaláv" do not pass through the town, and therefore they are not covered. All the rain water falling on the highland comes to this tank through the gutters, and the surplus passes to other minor tanks through drains specially made for the purpose.

There are two wells with steps for bathing purposes, the water of which is not good (untasteful).

There are three tanks for washing and cattle-watering. These are in a middle state, and are cleaned out periodically.

In addition to the above there are 34 private wells. Precaution has been taken that they are cleaned out by their respective owners. These are all protected and have got parapets.

There is, at a distance of about 1½ miles from the town, one nála called "Tatihal." Cattle-washing is permitted there; there are some other ponds in fields which have also been used for the same purpose.

Drainage.—In the Bázár Street there are covered side drains of masonry and chunam; in the side streets there are mere cuttings, through which drainage is cleaned out. Where two roads from different directions meet, drains have been built of masonry, and these are in good order.

Cess-pools.—None. In the rear of the houses persons take their bath, &c., and the water is used for the trees in their garden.

Scavengering.—There are 2 peons, 1 náik, 9 coolies, 2 scavengers and 2 dust-bins. The sweepings are taken out of the town where they are burnt. There is no practice of selling the ashes, &c.

Latrines.—There are no public latrines. Some persons have only cuttings in their gardens for the purpose, and those who have not gardens and travellers, &c., resort to a barren place, which lies to the north-west of the town, for natural purposes.

Urinals.—None.

Markets.—None. Vegetable sellers hold their seat in other persons' shops or in an open space of land. Butchers have got their own shops. They sell mutton and beef there. The floors of these shops are well looked after. Separate places have been allotted to butchers, at a distance from the town, for killing sheep and cows. They bury the dirty substance from out of the body there, and bring to their shops only clean mutton and beef for sale.

Burial-grounds.—There is one burial-ground for Europeans to the north-east of the town—of 5 gunthás; two Mahomedan burial-grounds—one of 3 acres and 1 guntha, and the other of 2 acres and 3 gunthas; one for Christians—of one acre; and two of 1 acre each for Hindus and Lingáyets, to the south-east of the town.

Cremation Ghâts.—To the north side of the town there is one of 1 acre and 18 gunthas.

New Works.—Repairs to Dewgírí Tank. Two new drains have been built this year of masonry and chunam, and two new streets, called Christian and Barber Streets, have been newly constructed.

C. McCULLUM,

Second Assistant Collector and Vice President,

Municipality, Haliyál.

RATNA'GIRI.

Municipality.—RATNA'GIRI.

Enumerated Population	Males ...	8,194
	Females...	6,806
	Total ...	15,000

	Rs.	a.	p.
Annual Income	1,092	7	9
Expenditure on Conservancy, not including water-supply	139	4	9

Water-supply.—At Nachani, about two miles away, a stream has been dammed up, and the water restrained by the dam is conducted from there through a masonry channel to a reservoir near the town.

There are 297 draw-wells. On the east of the town there is the Fansi brook, the water of which is used for drinking and domestic purposes, and to a small extent for fair-weather crops.

There are 9 public tanks with steps, of which all dry up in the hot weather except one. Their water is used for watering cattle and orchards.

Drainage.—The situation of the town at the foot, and on the west, of a steep slope ensures rapid drainage, and renders road sweeping establishment less necessary than in other towns. However, in the main streets there are open side drains of masonry, and in some of the side streets there are simple cuttings.

Cess-pools.—None.

Scavengering.—There is no establishment for removal of street sweepings, and the roads are kept clean by the occupants of the houses bordering them.

Latrines.—There are no public latrines. There are about 100 private privies served by 5 Municipal sweepers. In a few cases iron receptacles are used. The night-soil is carried away to the mouth of a small river which, in the fair weather, dries up, and is buried. In the monsoon the tides and freshets sweep everything out to sea.

Urinals.—None.

Markets.—None. The plinth only is yet complete of a fish-market to be built hereafter; but fish are sold there.

Burial-grounds.—Four—one to the east, one to the south-east, and two to the north-west of the town. Number of burials cannot be given.

New Works.—The construction of the Nachani water-works by convict labour, at a total cost of Rs. 40,000, is nearly completed; the plinth of a proposed fish-market was laid at a cost of Rs. 121-1-9.

Municipality—RA'JA'PUR.

Enumerated Population	Males ...	3,742
	Females...	3,704
	Total ..	7,446

	Rs.	a.	p.
Annual Income	7,918	12	9
Expenditure on Conservancy	4,345	1	6

Water-supply.—The water is brought from a lake formed by a dam erected near some springs at Kodawli—a village 3 miles distant. The water is then conveyed in a covered masonry channel into a service reservoir, at the upper end of which is a filter, through which all the water percolates, and at the lower end a fire-plug which communicates with the principal main leading into the town.

This main has also been carried on direct to the filter with which it communicates by a sluice, so that the service reservoir need not necessarily be used. And while the service reservoir exists for the continuous supply of the town pending any repairs to the head-works or channel, it is also possible to supply the town direct through the main if anything has to be done to the service reservoir. Fire-plugs have also been fixed at every 200 feet along the various mains, and also the necessary hose has been provided for use in case of fire, the pressure having been found sufficient to throw water over the highest house in the town.

There are 40 stand-pipes for the use of the people, 2 troughs for cattle, and 3 cisterns by the main road outside the town limits for the use of travellers. There are 2 private step-wells and 215 drawing wells. There are, moreover, 12 public wells—6 used by the Hindus, and the rest by the Mahomedan community.

There are also 9 tanks with steps used by the Hindus, and 6 more by the Musálmans for drinking and domestic purposes.

There is also a large stream, the water of which is used by a large part of the population for bathing, washing clothes, watering cattle and irrigation.

Drainage.—In the main streets there are covered side drains of masonry, which discharge themselves into a tidal creek passing through the Municipal limits.

Cess-pools.—None.

Scavengering.—There are 6 sweepers. The sweepings and house refuse are taken to a remote place and there daily burnt.

Latrines.—There are no public latrines, and the number of private privies is only 33, and the night-soil is consumed by cattle. No sweepers are employed for the purpose either by the Municipality or the house-owners.

Urinals.—None.

Markets.—None.

Burial-grounds.—In all 5—2 on the west, 2 on the east and 1 on the south of the town. There were 86 burials.

Cremation Ghâts.—Three—1 to the west, 1 to the north and 1 to the east of the town; 122 bodies were burnt during the year.

New Works.—Repairs to the old Talim Khana at Rájápur, at a cost of Rs. 3,000 from Local Funds.

Municipality—VENGURLA.

Enumerated Population	Males ...	4,610
	Females...	4,390
	Total ...	9,000

	Rs.	a.	p.
Annual Income	15,077	4	7
Expenditure on Conservancy	7,931	14	8

Water-supply.—The water-supply is obtained from the Náráyan tank, which is about half a mile distant from the town. A well has been dug in the tank with a filter attached. Into this well are discharged the contents of several springs, and the water is carried off by iron pipes to the town. There are troughs at different portions of their course for cattle, while the inhabitants get their supply from stand-pipes, which are about 25 in number. There are 12 dipping wells, which are simply used for washing and watering cattle.

There are, besides, two tanks with steps, the water of which is used for irrigation only. There is also a small stream, the water of which is used for irrigation, watering cattle and washing clothes. A temporary dam is thrown across it during the fair season. There are also numerous private wells.

Drainage.—The town is undrained.

Cess-pools.—There are no cess-pools in the town.

Scavengering.—The scavengering establishment consists of 10 Mhárs on Rs. 10 per month, and 2 carts, each drawn by a pair of bullocks. The street sweepings are carted to a piece of salt-marsh, which is thus being reclaimed.

Latrines.—There are no latrines, public or private, and the people resort to the fields on the outskirts of the town for natural purposes.

Urinals.—None.

Markets.—There is a fish market consisting of 8 shops. There is also a vegetable market. These have good plinths and chunam floors, and all are well looked after.

Burial-grounds.—There are 3 burial-grounds, and there were 15 burials during the year.

Cremation Ghâts.—There are 4 cremation places. The number of bodies burnt not known.

New Works.—There were no new works during the year. The Municipality, however, have resolved upon undertaking the following works:—

1. Cloth market.
2. Doubling the area of the present fish market.
3. Three hundred public latrines and steps are in progress for raising a loan of Rs. 50,000 for the purpose.

Municipality—CHIPLU'N.

Enumerated Population	Males ...	4,430
	Females...	4,350
	Total ...	8,780

	Rs.	a.	p.
Annual Income	8,715	12	2
Expenditure on Conservancy, not including water-supply..	80	0	0

Water-supply.—There are 10 tanks, most of which dry up in the hot weather, except one (the Rámtirtha). Their water is used for bathing, washing clothes and watering cattle. But these are all out of repair. A dam is yearly built across the Shiva River to store sweet water for the cattle; but even this dries up about the month of April, after which time the population is wholly dependent on wells.

A large and expensive Local Fund well has been sunk and fitted with wheels and pullies for the use of the public. There are two more public wells—one near the Dharmshála, and the other by the side of the Kacherí. There are in all 226 private wells; of these 15 are step-wells, 1 dipping well, and the rest drawing ones. Their water is used for drinking and domestic purposes. On the whole, Chiplún suffers more severely from want of water than any other town in the District.

To supply this want a dam has been built across the Shiva River at Kámti, about 2½ miles above the town, from which it is proposed to bring the water in iron-pipes to the bázár and town, and also as far as the quay at Gowalkota.

Drainage.—In some of the main streets there are open cut drains at the sides. No masonry gutters have yet been provided.

Cess-pools.—None.

Scavengering.—The scavenging establishment consists of 8 men, supervised by the Municipal Inspector. The garbage and street sweepings are collected and taken away in baskets to a piece of waste land and to the creek, from which the tide carries off everything to the sea.

Latrines.—There are no public latrines, and only 32 private privies cleaned by the cattle feeding there. No bhangis are employed either by the Municipality or by the public. The greater part of the inhabitants resort to the fields for purposes of nature.

Markets.—None.

Burial-grounds.—There are 12 burial places. There were 75 burials.

Cremation Ghâts.—There are 7 such places where 45 dead bodies were burnt during the year.

New Works.—The important work under construction during the year was the Kámti head-works for water-supply, which was nearly completed at a cost of about Rs. 30,000.

G. WILSON,
Collector and President, Chiplún Municipality.

SURAT.

Municipality—RA'NDER.

Enumerated Population	Males ...	4,702
	Females...	5,578
	Total ...	10,280

	Rs.	a.	p.
Annual Income...	17,647	10	4
Expenditure on Conservancy	7,272	3	4

Water-supply.—Nearly all the inhabitants drink the water of the Tápti. Well water is preferred, but there are only eight sweet water wells. The river water never fails; but in the hot weather, when the downward flow is weak in comparison with the tide, the water can be obtained free from salt only for an hour or so before each tide begins; and in the rains, when the river is heavily flooded, the water is far from pure.

Drainage.—There are no built drains, but cuttings are made for the rain water to flow off.

Cess-pools.—There are 522 cess-pools; they are cleaned out periodically by the Municipality.

Scavengering.—For the eight months of the fair season 8 scavengers are employed to keep the streets clean; they place the sweepings in the Municipal dust-bins, which are 42 in number. And 3 bullocks carts and drivers are employed to clear the bins. The sweepings are largely sold to the tile-makers, and when in excess are used to fill up holes and hollows outside the town. In the rains 4 scavengers and 2 carts and drivers are employed.

Latrines.—There are 3 sets of public latrines containing 50 seats, besides 90 private open privies served by Municipal sweepers—1 mukádam and 7 men with 2 iron night-soil cylindrical carts and 1 wooden cart. Iron receptacles are furnished.

Urinals.—None.

Markets.—There is only one market in the town. It is used for fish only, and was built by the Municipality in 1876-77 at a cost of Rs. 2,043.

Burial-grounds.—There are 4 burial-grounds to the west and south of the town. There were 33 burials during the year.

Cremation Ghâts.—There are 3 different cremation grounds beyond the Municipal limits. There were 244 bodies burnt during the year.

New Works.—Public latrines and night-soil carts ...	Rs.	2,079	11	7
Dust-bins	„	838	0	0
Slaughter-house	„	780	13	3
Repairs to wells	„	89	9	0
Fish market	„	2,226	1	7
Total...	Rs.	6,014	3	5

G. C. WHITWORTH,
Vice-President, Ránder Municipality.

Municipality—BULSA'R.

Enumerated Population	Males ...	5,808
	Females ...	5,507
	Total ...	11,315

	Rs.	a.	p.
Annual Income	13,118	11	9
Expenditure on Conservancy	2,195	11	8

Water-supply.—There are no water works. Water is supplied from tanks and wells. There are 3 tanks with steps, of which one is specially reserved for drinking and domestic purposes. It was last cleaned out two years ago. In the other tanks bathing and washing are permitted.

There are 6 tanks without steps, in which bathing and washing are permitted. They are in fair order, and one was cleaned out two years ago. They all fill by surface drainage.

There are 65 public wells, of which 2 are for the lower castes. They are well built. The supply never fails, and the quantity is tolerably good. There are also 245 private wells.

Drainage.—There are no pucka built drains except a culvert in the Bázár Road. During the rains kucha drains are annually dug out and filled up afterwards.

Cess-pools.—There are 39 cess-pools of various sizes built of brick and lime masonry. They are very deep, and have not been cleared out by the Municipality.

Scavengering.—There are 9 coolies, 3 carts and 2 dust-bins. The sweepings are used in filling up low-lying grounds.

Latrines.—There are 6 pucka built latrines, each with 16 seats. There are 163 private privies served by the Municipal sweepers, who consist of 1 mukádam and 9 men. There are 2 night-soil carts, which are at present not in use. The night-soil is buried in pits at a depôt half a mile from the town; but the position of the depôt and the arrangements for the removal of the night-soil are not satisfactory.

Urinals.—None.

Markets.—There are 2 markets—1 for mutton and 1 for fish. The mutton market is pucka built, while the fish market is an open shed. There is a private shop for beef. The markets are well looked after.

Burial-grounds.—Within Municipal limits there are 7 burial-grounds as shown below:—

No.	Measurement in Square Yards.	Situation.
1	48,000	On the west of the town.
2	9,576	Do.
3	43,200	Do.
4	10,989	On the east of the town.
5	920	Do.
6	2,325	Do.
7	39,375	On the west of the town.

There were 18 burials during the year.

Cremation Ghâts.—There are 2 below the town on the bank of the Amrunga. There were 51 bodies burnt during the year.

New Works.—Two wells commenced last year were completed in the year under report.

J. N. JENKINS,
Vice-President, Bulsár Municipality.

Municipality—MA'NDVI.

Estimated Population	Males ...	2,059
	Females...	2,088
	Total ...	4,147

	Rs.	a.	p.
Annual Income	4,280	5	2
Expenditure on Conservancy	509	6	6

Water-supply.—The River Tápti runs close to the town; it is not subject to the action of the tide, and the water is drinkable throughout the year. Persons residing near the river use river water for drinking; others, whose houses are at a distance from the river, use well water. The river is deep, and not fordable during any part of the year except by means of boats. Two boats are provided by the Municipality to enable the people to cross it.

There are altogether 115 wells in the town as follows:—

Public wells under the management of the Municipality ...	4
Wells built by private persons in their streets, and which are used by persons residing in those streets ...	32
Wells situated in the houses and compounds of private persons	79
Total ...	115

One of the four wells under the management of the Municipality has steps and two troughs. These troughs are kept filled with water during the hot season, when persons residing in the vicinity take their cattle there to drink: others take their cattle to the river.

The place where washermen wash clothes in the river is situated about half a mile below the town.

The next village down the river is Oosked Khurd, at a distance of about 1½ miles from the town of Mándvi.

There are no tanks in the town.

The above-mentioned 115 wells include one well for low castes (Khalpas and Bhangis). It is a kucha well situated in their street, and the water is good.

Drainage.—There are cuttings made on each of the main roads for the rain water to pass.

Cess-pools.—There are no cess-pools in the town; the houses generally have open compounds at the back, where the inmates bathe and clean their pots, &c., and the water is dried up by the heat of the sun.

Scavengering.—There are 8 bhangis, 2 carts without bullocks, and 12 dust-bins.

The sweepings are taken to the following depôts, outside the town wall:—

On the west side of the town, outside the Soortee Náka—distance about 200 feet.

On the west side of the town, outside the Bodhan gate—distance about 150 feet.

On the north side, outside the town—distance about 100 feet.

Some quantity of sweepings was purchased by brick and tile-makers to use as fuel in their kilns, which realized Rs. 19-8-0, and the rest was burnt down.

Latrines.—There was no public latrine during the year 1879-80; one has been erected by the Municipality during the current year 1880-81 at a cost of Rs. 256-0-6, with 18 seats, viz., 8 for males and 10 for females. Iron receptacles are placed under the seats, and a separate bhangi, on a monthly salary of Rs. 5, is employed to clean the latrine twice every day.

There are 36 private privies in the houses and compounds of the people; of these 18 are open privies, which are cleaned by bhangis engaged by the owners, and the remaining 18 privies are made of deep holes or pits dug in the ground.

Urinals.—There is no urinal in the town.

Markets.—There is one market building erected by the Municipality, with 21 stalls, for the sale of beef, mutton, and fish.

An inspector is appointed on a salary of Rs. 6 per month to look after the market building, and to see that the beef, mutton and fish exposed for sale are wholesome and fit for food. He also collects rent from persons using the stalls.

Burial-grounds.—There are the following burial-grounds :—

1. In Koombharwara—180 feet long and about 100 feet broad.
2. In Bawaghore Tekra—150 feet long and about 130 feet broad.
3. In Alumkhan Street—150 feet long and about 100 feet broad.
4. At the Guredia Jhampa, near the Wuzeer's temple, outside the town—about 500 feet long and about 400 feet broad.
5. On the west of the Ambojee's temple, outside the town—about 285 feet long and about 240 feet broad.
6. On the west of the town, outside the Bodhan Gate—about 2,500 feet long and about 650 feet broad.
7. Near the Belkeseer Mahadev's temple—about 1,200 feet long and 600 feet broad.
8. Near the Dhobhee Dhowan Khave, outside the town—about 800 feet long and 525 feet broad.

There were 63 burials during the year.

Cremation Ghâts.—There are 2 places on the river side for burning dead bodies—one above the town, and the other below it.

Eighty-nine bodies were burnt during the year.

New Works.—A sum of Rs. 725-14-8 was spent during the year towards the construction of a new boat for use in the Tápti River.

A sum of Rs. 25-11-9 was spent during the year towards constructing a new well in the Holee Chukla in the town; the well has been completed in the current year.

Maintenance of Medical Institution.—A sum of Rs. 100 was given to the Mándvi Dispensary as annual contribution towards the cost of purchasing medicine.

OMEDRAM R.,
Vice-President, Mándvi Municipality.

Municipality—SURAT CITY.

Enumerated Population according to Census of February 1872.	Males ...	54,782
	Females...	52,367
	Total ...	107,149

	Rs.	a.	p.
The Income of the Municipality for the year 1879-80 was	2,36,172	8	1
The Expenditure on Conservancy for the year 1879-80 was	78,925	14	3

Water-supply.—The wells in the city contain very brackish water, consequently the richer class of the inhabitants store up rain water in tanks constructed underneath their houses. The poorer residents fetch their drinking water from the river or from wells situated outside the city, where the water is drinkable. There was a proposal to supply the city with fresh water from the River Tápti at Kumrej by means of an open cutting discharging in a large reservoir at Delhi Gate, from which it was to be filtered and pumped up by steam-power to a sufficient height to enable its delivery by gravitation, and other certain pressure by cisterns and hydrants in different parts of the city; but, for want of funds, it is lying in abeyance.

Drainage.—The city is properly drained except in the low-lying part of Shigrampura, where the rain water stops in hollows made by brick and tile-

makers in private ground and fields, over which the Municipality has no control; all the drains in the city are capable of discharging a rain-fall of 10″ per hour; all the maccadamized roads have open masonry drains on the sides.

Cess-pools.—There are 8,296 cess-pools (Khalkuas) and 8,261 open privies attached to houses in the city. The former are cleaned by the Municipality once every second year, or as often as they are full. The open privies are cleaned daily. The Khalkuas and open privies are almost all constructed of brick and lime masonry. The establishment for cleaning the above consists of—

1 Sanitary Inspector on Rs. 225 per mensem.
4 Sub-Inspectors on Rs. 20 each per mensem.
4 Mukádams on Rs. 15 each per mensem.
1 Peon, Rs. 7 per mensem.
40 Male bhangis for cess-pits, Rs. 11 each per mensem.
148 Female bhangis for open privies, Rs. 7 each per mensem.
25 Carts for removal of fœcal matter, Rs. 16 each per mensem.

Scavengering.—For the purpose of sweeping the streets of the city the following establishment is kept up under the superintendence of four Dároghas at Rs. 40 each per mensem, and 27 peons at Rs. 7 each per mensem:—

50 Sweepers at Rs. 7 each per mensem.
50 Carts for rubbish, Rs. 16 each per mensem.

There are 616 dust-bins. The sweepings are carted to the depôts. There are two such depôts—one is situated outside the Salabatpura Gate, and the other outside the Lal-gate. The amount realized from the sale of deodorized night-soil during the year has been Rs. 615, and the sale of rubbish Rs. 704. The system of preparing poudrette has been introduced only very recently (December 1880); the result will, therefore, be reported next year.

Latrines.—There are 15 public latrines situated in convenient parts of the city. They are all built of brick masonry, and cleaned daily by the Municipal establishment.

Urinals.—There are 41 urinals made of iorn sheets, with receptacles for urine. These are cleaned daily by an establishment consisting of 2 carts, at Rs. 16 each per mensem.

Markets.—There are 4 fish and meat markets, besides 5 vegetable sellers' enclosures and a shed. They are all very centrally situated. The beef and mutton stalls are paved with stones, and the fish stalls are asphalted. The income from markets during the last year was Rs. 6,310-13-2, and expenditure on establishment, &c., was Rs. 2,526-4-0. There is one slaughter-house situated at the Salábatpura Gate. The establishment for markets and slaughter-house consists of—

1	Superintendent	on Rs.	60	per mensem ...	Rs. 60
1	Chief Inspector	on „	20	do. ...	„ 20
3	Sub-Inspectors	on „	15	each do. ...	„ 45
1	Sub-Inspector	on „	12	do. ...	„ 12
1	Peon	on „	6	do. ...	„ 6
7	Sweepers	on „	...	do. ...	„ 33
1	Water-woman	on „	6	do. ...	„ 6
1	Cart	on „	16	do. ...	„ 16
				Total...	Rs. 198

Burial-grounds and Cremation Ghâts.—There are many burial-grounds in and outside the city; many of the Mahomedan mosques in the city have burial-grounds attached to them. The Hindu burial-grounds are outside the city. The Pársi take their deads to the Towers of Silence situated outside the Serai Gate. There are two cremation ghâts or Hindu burning grounds—1 situated at Phulpara, and another near Marimanta, on the River Tápti.

New Works.—A list of some of the most important works done within Municipal limits up to the end of the year 1880-81 since the establishment of the Municipality is given in the accompanying statement.

Works done up to the end of the year 1880-81.

All these works are kept up by the Municipality at a large annual expense. The Municipality also contributes towards the keeping up of the roads outside its limits to the extent of Rs. 2,028 per annum.

The entire cost of keeping up the Párakh Dispensary is defrayed out of the Municipal fund, and a contribution is made by the Municipality towards the cost of repairs to the Civil Hospital.

No.	Name of Works.	Amount.			Remarks.
		Rs.	a.	p.	
1	Public Park	56,040	0	0	
2	Municipal Office	1,23,052	10	2	
3	Police Stations	851	0	0	
4	Fire Engine Stations	5,977	1	6	
5	Public Latrines at Variao Gate	41	8	3	
6	Slaughter-house	4,090	7	9	
7	4 Meat and Fish Markets	20,788	15	10	
8	15 Latrines, with and without seats	5,728	0	0	
9	Chaukis for collecting Taxes	759	8	10	
10	Clock Tower	17,330	4	7	
11	7 Vegetable-sellers' Enclosures	2,492	9	8	
12	Water-cart Shed...	1,071	12	0	
13	Engine-shed	1,478	4	0	
14	Police Lines at Jhampa	27,789	10	0	
15	10 Fire Engines	12,690	0	0	
16	4 Forcing Pumps...	4,900	0	0	
17	1 Cart for Fire Tools	50	0	0	
18	56 Iron, small, cylindrical Carts for watering ...	7,089	8	0	
19	14 Do. large, do. do. ...	2,114	0	0	
20	815 Lamps on wooden posts	5,268	8	0	
21	614 Lamps on Brackets	1,204	4	0	
22	50 Large Lanterns with Burners on iron posts ...	2,600	0	0	
23	294 Small do on wooden posts and iron brackets ...	1,786	8	0	
24	16 Cylindrical iron Carts for Scavenging Department ...	4,100	0	0	
25	8 Square iron Carts for do. ...	1,200	0	0	
26	2 Wooden carts for do. ...	199	0	0	
27	41 Urinals	2,539	14	3	
28	616 Dust-bins	5,737	10	0	
29	5,566 Iron Pans	2,287	4	0	
30	Cylindrical iron Cart for removing refuse of the Slaughter-house	200	0	0	
31	8 Iron Road Rollers	3,243	9	5	
32	2 Stone Rollers	50	0	0	
33	1 Foot-path Road Roller	227	6	0	
34	6 Scrapers	210	0	0	
35	Portable Engine with Boiler on iron wheels ...	4,016	6	3	
36	Constructing Delhi Gate Road	4,89,491	8	7	
37	Constructing Nanpura and Kuttargaum roads ...	11,975	12	0	
38	Constructing Inundation Works	50,368	9	6	

16½ miles of other good, metalled, and gravelled roads with side drains, and 10 public wells, have been built at a great outlay and kept up in good condition.

Secretary, Surat City Municipality.

KAIRA.

Municipality.—NADIA'D.

Population according to Village Form No. 13 prepared last year	Males ...	13,686
	Females...	13,022
	Total ...	26,708

	Rs.	a.	p.
Annual Income	22,088	10	5
Expenditure on Conservancy, cleaning Latrines, &c. ...	923	3	1
Scavenging Roads and Streets	1,920	10	8
Establishment—Mukádams, Inspectors, &c. ...	495	5	2
Total...	2,339	2	11

Water-supply.—There are 24 wells, 3 step-wells and 10 tanks. The wells are distributed—

4 at Chaklási Bhagol,	3 at Dabháu Bhagol,
2 „ Salun „	3 „ Pij „
4 „ Manda „	3 „ Dumrál „ and
3 „ Ahmedabad „	2 in the town.

These are all fit for drinking purposes, though the water of 2 wells and 1 step-well is not good, and not generally used for drinking. There are also many other wells of water not fit for drinking, but fit for washing purposes.

Drainage.—There are no regular drains; but along the main roads there are gutters of masonry.

Cess-pools.—There are very few in Nadiád, and no new ones are permitted. Those there are, are of masonry. These are not cleaned out by the Municipality, but the owners are held responsible for their condition.

Scavengering.—There are—

2 Inspectors.	48 Sweepers.
4 Chaukidárs.	1 Sweeper Mukádam.

The sweepings are taken in baskets to dust-bins, and thence to depôts, in different sides of the town.

Latrines.—There are 13 public latrines outside the town, surrounded with bamboo screens, and cleaned by sweepers, some of whom are placed in charge of each latrine; the night-soil is deposited in pits. Lately (year 1880-81) depôts have been fixed outside the town on different sides, and there the night-soil is carried away in night-soil carts and deposited in lairs, covered with the ashes of sweepings; but this was not the practice in 1879-80.

In the town there were (in 1879-80) some 5 latrines cleaned by the Municipality.

Since 1879-80 several new pucka latrines, nearly all on Colonel Goodfellow's plan, have been constructed; in all 7 new latrines have been built; but the account of these had best be left till the report for the year 1880-81.

Urinals.—In 1879-80 there were none; since then some 25 have been built; but an account of these had best be postponed till the report for 1880-81 falls due.

Markets.—None. Measures have been taken to provide a meat market and vegetable market.

Burial-grounds.—For Muslámans there is one of an acre at the Ahmedabad Gate. For low-caste Hindus at Pilwai, about an acre, and for Sádhus at the Chaklási Bhagol. There is also a field near the Kumnath temple, outside the town, for Hindu children. There have been 219 burials in 1879-80.

Cremation Ghâts.—There are two near Nadiád; the burnings, however, chiefly take place at Bilodra, two koss (4 miles) off on the River Shedi. The number of bodies burnt in 1879-80 was 675.

New Works.—In 1879-80, 8 new khadiats (paved inclines) were built.

J. M'L. CAMPBELL,

Collector.

Municipality.—KAPADVANJ.

Enumerated Population according to Village Form No. 13 prepared last year	Males ...	6,816
	Females...	6,948
	Total ...	13,764

	Rs.	a.	p.
Annual Income	8,692	2	2
Expenditure on Conservancy	1,789	9	2

Water-supply.—The River Mohar flows close to the west of the town ; cattle are watered from it. People also bathe and wash in the river, which is fordable except during the floods. The people living towards the river side and Dhers draw water from it. Particular portions of the river have not been assigned for particular purposes. There is also the River Varansi, about a mile to the west of the town. There is a tank to the east of the town, outside the Antisaria Gate, which is used during the monsoon, and for 2 or 3 months afterwards for watering cattle, washing, &c. The water is not used for drinking. It has an earthen embankment, and no steps.

Also another tank in the same direction outside the Sarkhalia Gate, which has a masonry embankment towards the west. It also is used as above, and dries up in 2 or 3 months after the monsoon.

There are also 11 public wells and one baori, or a well, with steps, outside the town, but close to it. The water of these is used for drinking purposes.

There are also, within the town, 140 wells and 2 baoris, or wells, with steps. The water of these is brackish, and is therefore used for domestic purposes only. There are also 1 well and 1 baori containing brackish water, outside the town, but sufficiently near it, to enable the town-people to use the water for domestic purposes.

In addition to these, there is in the heart of the town, near the clock tower, a fine reservoir with flights of steps, which, I hear from reliable sources, once contained brackish water, and the people used to bathe in this reservoir ; but the water has disappeared within the last quarter of a century, for causes not yet ascertained.

Drainage.—There are no drains constructed either in the main streets or side streets.

Cess-pools.—Of these there are 420 made of pucka masonry ; 464 of brick and mud ; 34 of earthen jars buried under the ground, &c. These are cleared at intervals by private bhangis.

Scavengering.—There are 13 bhangis, 4 carts, and 20 dust-bins. The sweepings are taken to the following depôts :—

1. To the south of the town, outside the Sarkhalia Gate.
2. Do. do. Mitha Talâv Gate.
3. To the north, outside the Ghanchi Bari Gate and near the Antisaria Gate.

These are annually sold to agriculturists, and realized, in the year under report, Rs. 336-4-6.

Latrines.—There are two public latrines made by the Municipality, enclosed with bamboos, with partitions for males and females. One of these latrines occupies 9 acres 27 gunthas, and the other 2 acres 14 gunthas of ground. Two bhangis are kept for cleaning these privies. The excreta are thrown in pits made in the same ground and allowed to dry. In the Bohra Streets there are said to be deep privies, within the ground, in almost every house, and there are also about 25 private privies, which are cleaned by bhangis of the house-owners, and the excreta thrown in the pits above stated.

Urinals.—No masonry urinals have been built, but places have been assigned for urinary purposes covered from view by iron sheets. These places are daily cleaned by Municipal bhangis, and disinfectant powder is also scattered there.

Markets.—There are sheds for the sale of vegetable near the clock tower. During the year under report the rent realized for these was Rs. 72-12-0. They are properly looked after.

Burial-grounds.—The burial-grounds of Bohras is within the limits of Sultanpur beyond the River Mohar, and that of the bulk of Mahomedans in the limits of Tayabpur, about a mile from the town. In addition to these, dead bodies are interred in many places, outside the town, in small numbers. The number of burials reported by the Chairman is 69; but the number probably represents those buried in the places last mentioned.

Cremation Ghâts.—One on the Mohar to the south-west, about a mile from the town. One on the same river to the west, about 300 feet from the town, for little children. There were 185 bodies burnt during the year.

New Works.—A portion of the town wall rebuilt. Two latrines enclosed by bamboo walls. Four dust-bins. One wooden railing made to a public well.

E. DOSABHAI,
Vice-President.

Municipality.—DA'KOR.

Enumerated Population according to Village Form No. 13 prepared last year	Males ...	3,763
	Females...	3,258
	Total ...	7,021

	Rs.	a.	p.
Annual Income...	7,225	15	1
Expenditure on Conservancy	1,300	5	1

Water-supply.—Wells 119; step-well 1; tank 1. Of the wells 2 are public and 2 belong to the low-caste people; the remaining 115 are private.

Drainage.—There are masonry gutters along the main streets, and cuttings in the side streets.

Cess-pools.—There are 108 earth cess-pools and 247 masonry. They are not cleaned by the Municipality, but the owners are held responsible for their condition. No new cess-pools are permitted to be constructed.

Scavengering.—One mukádam and 16 sweepers for roads. One Mukádam and 8 sweepers for latrines.

The sweepings are carried in baskets to dust-bins, which are cleared periodically, the refuse being carried to the night-soil depôts.

Latrines.—There are 8 fields set aside for natural purposes; and 5 places closed round with bamboos, one near each gate, for the same purpose. They are daily cleaned; the nuisance is carried to depôts and buried, and an auction sale of the manure thus collected is held every year. There are 118 private latrines in the town; these are not cleaned by the Municipality, but the owners are held responsible for their condition.

Urinals.—There are 6 urinals in the town; of these 5 are provided with tubs, into which the urine runs, and which are carried away and cleaned out periodically by the sweepers.

Markets.—None.

Burial-grounds.—There are 4 burial-grounds for Mahomedans and 2 for Hindus. These are not set aside for the purpose, but are used for the purpose by right of prescription. Bodies are burnt near the tank; there is no land specially set aside for the purpose. There were in all 425 bodies buried and burnt during the year.

New Works.—None.

R. M. KENNEDY,
Vice-President.

Municipality—MEHMADABAD.

Enumerated Population according to Village Form No. 13 prepared last year	Males ...	3,877
	Females...	3,565
	Total ...	7,442

	Rs.	a.	p.
Annual Income	2,797	6	8
Expenditure on Conservancy	344	8	0

Water-supply.—There are no water works conducted by the Municipality. The River Vátrak, fordable at all times of the year except when flooded, is situated at the distance of about a quarter of a mile to the north, and about a mile to the west, of the town. Places are fixed for bathing, for washing clothes, for washing Bhávsárs' (dyers') clothes, and for Dhers to fetch water from. Cattle are watered near the place set aside for bathing. Owing to the distance of the river from the town, water is not brought from it for drinking and other domestic purposes, except by Dhers. There is one tank, called "Fatoon," to the south of the town. It has a masonry embankment on the side of the town, and has steps also. It is used for washing clothes during the monsoon. The water lasts for about a month or two after the monsoon, when people living in that locality water their cattle from it. The water of this tank is not used by the people for drinking purposes.

There are also 13 public wells, 10 of which contain fresh water, and 3 contain brackish water. Seven of the wells are for the lower castes, which were cleaned in 1878-79 from Municipal funds. In addition to these there are 36 wells in the fields for irrigation, and the water of these is also used for drinking purposes. As water is constantly drawn from these wells for irrigation, it remains clean. Besides, they are cleaned every second or third year. They are built of brick, earth and chunam. The supply never fails. There are also 36 private wells. The water of 6 of these is saltish, and that of the rest is fresh.

Drainage.—There are no side drains or cuttings either in the main streets or side streets, nor have cess-pools been constructed by the Municipality.

Cess-pools.—There are, however, private cess-pools as under;—

Cess-pools constructed of brick and mud	4
Buried earthen jars	46
Total ...	50

These are cleaned periodically by bhangis paid by the house-owners.

Scavengering Establishment.—There are 1 inspector and 7 bhangis. The latter are employed in the scavenging of the town. The sweepings are taken in baskets by the bhangis to places assigned for "Ookurdas" or dung-heaps of cultivators on four sides of the town, and there deposited in pits made for the purpose. They are then sold in the month of May by public auction to agriculturists. The realization by auction on this account, together with that of night-soil, for the year under report was Rs. 71-2-2.

Latrines.—There are 8 public latrines. One has been walled during this year. The rest are enclosed by hedges. The latrines cover a sufficient area of ground. They are cleaned by 8 bhangis employed by the Municipality for the purpose, and the night-soil is deposited near the sweepings in the places assigned for dung-heaps, and then sold by public auction as stated against the head of Scavengering.

Urinals.—There are 8 urinals constructed by the Municipality in the town. They are cleaned by the Municipal scavenging establishments.

Markets.—None.

Burial-grounds.—There are 4 burial-grounds, viz., one on each side of the town. They comprise 6 acres and 36 gunthas of ground altogether. There were 252 burials during the year.

Cremation Ghâts.—About an acre of ground has been assigned for this purpose near the Vátrak River. Two hundred and three bodies were burnt during the year.

New Works.—A wall has been built round the latrine for males near the Nadiád gate.

EDALJI DOSABHAI,
Vice-President, Mehmadabad Municipality.

Municipality—KAIRA.

Enumerated Population according to Village Form No. XIII. prepared last year	Males ...	5,847
	Females...	5,635
	Total ...	11,482

	Rs.	a.	p.
Annual Income	8,772	10	9
Expenditure on Conservancy	1,704	7	2

Water-supply.—There are no water works conducted by the Municipality. The inhabitants of the town draw their supply from the River Vátrak, on the banks of which the town is situated, as also from 12 public wells which are situated in and outside of the town.

Drainage.—In the main streets there are five (5) closed drains of masonry; in the side streets there are 11 open drains plastered with chunam.

Cess-pools.—There are about 75 cess-pools of various sizes of brick and lime masonry belonging to private individuals, who see that they are cleaned by their own bhangis. The covered drains alluded to under "Drains" are periodically opened and cleaned by the Municipality and kept under thorough repair.

Scavengering.—There are 2 mukádams and 26 bhangis who are employed in cleaning the town, as also the cleaning of Municipal privies and urinals. There are 2 carts, but no dust-bins are made use of by the Municipality, owing chiefly to the narrowness of most of the streets and lanes. The sweepings are taken to a depôt on the western side of the town, half a mile distant, and the night-soil is allowed to be dried up, and then sold by public auction, at which Rs. 41 were realized during the year under report.

Latrines.—There are 2 pucka-built masonry latrines; each has 36 seats, divided into compartments, for the use of males and females separately. There are also 3 kucha open latrines. One of these was being converted into a pucka one during the year under report. The latrines are cleaned by the Municipal sweeping establishment. The night-soil is conveyed in covered baskets. The cleaning of private privies is not undertaken by the Municipality, but that they are served by the sweepers employed by the owners. The night-soil is taken outside the town to a place set apart for it.

Urinals.—There are 22 Municipal urinals in the town, which are cleaned by the Municipal sweeping establishment.

Markets.—None.

Burial-grounds.—There are two burial grounds—one on the northern and the other on the southern side of the town—each measuring a plot of ground of about one acre. There were 102 burials during the year under report.

Cremation Ghâts.—There are two—one on the southern side of the town near the junction of the Vátrak and Shedhi Rivers; the other is on the north of the town, which is only resorted to during the rainy season when the river is flooded. There were 319 bodies burnt during the year under report.

New Works.—A portion of the town wall on the western side has been built anew at an outlay of Rs. 636-6-10 as a safe-guard against the floods in the river.

A pucka latrine outside the Lal Durbaza was under construction during the year under report, but it is since completed.

ADERJEE, J.,

Chairman, Kaira Municipality

PANCH MAHALS.

Municipality.—DOHAD.

Enumerated Population	Males ...	4,995
	Females ...	4,979
	Total ...	9,974

	Rs.	a.	p.
Annual Income	4,303	8	2
Expenditure on Conservancy	378	0	0

Water-supply.—The chief source is the large tank, with steps, on the west side of the town. Bathing and clothes-washing are permitted, but in places marked off for the purposes, and apart from the place where the drinking water is taken. The River Dudhimati—a small stream that dries up during the hot season. Drinking water is taken from holes made in the sandy bed. This water is used by only a small portion of the population.

Besides, there is one well in the Cantonment of the Bhil Corps on the north side, containing good drinking water. It is used by a large number. There are also two wells in private fields on the west side of the town, and below the tank, containing good water. They are now being used by large numbers; the people formerly preferring tank water for drinking.

There is also one public well in the north-east corner of the town, containing tolerably good water for drinking. It is used by a small number only. On the east side a step-well has been cut in the rocky soil. The water is good for drinking, and it is decided by the Municipality to build a drawing well in its place. There are a few private wells in the town, but they are all brackish, and not used for drinking purposes.

Drainage.—In the main streets there are open side drains of masonry, some of which are now not in good order. Provision has been made for their repairs. In the side streets there are mere cuttings.

Cess-pools.—The greater portion of the houses have cess-pools of brick and lime masonry, generally of the same size, and not very deep. They are not cleaned out by the Municipality.

Scavengering.—There are 1 mukádam and 11 bhangis employed for the main streets; the smaller streets are cleaned by the bhangis who are paid by the people. The sweepings are taken to a depôt on the east side of the town, and to several fields on the south side at a great distance from the town.

Latrines.—There are no public latrines; but the people go out to the open fields at some distance from the town. No perceptible nuisance is caused, jackals and other animals serving the purpose of scavengers. There are a few private privies which are daily cleaned by private bhangis, who deposit the soil with the heaps of sweepings in the fields, which, however, are at a sufficient distance from the town.

The houses of the Bohras, about 400 to 500, almost all contain privy wells; large quantities of salt are periodically put into them by the people.

Urinals.—None.

Markets.—None. The vegetable dealers squat on the two sides of the main bázár, which is very wide. The butchers, who are very few in number, sell meat at their own houses. These are always kept clean.

Burial-grounds.—There is one burial-ground of acres $7\frac{23}{40}$, which is not now in use. Those in use are four in number. One, about acres $3\frac{23}{40}$, is on the west side for Musalmáns and Ghánchis; another on the same side, of acres $5\frac{23}{40}$, is for the Bohras. The third is on the south side, of $6\frac{36}{40}$ acres, used by Musálmans and Ghánchis, and the fourth also on the south side, of about acres $1\frac{3}{4}$, is for the use of the Ráwals and other low Hindus. The number of burials during the year has not been ascertained; but it could not have been large, as the death-rate of the town is moderate.

Cremation Grounds.—One on the south-west corner of the town, on the south bank of the river.

New Works.—Metalling the road from the Kacheri to the Pani Gate. Sixty feet of covered masonry drain to divert the storm water from some of the streets formerly flowing into the tank. In 1877-78 important repairs were made to the tank.

BAHMANJI E. MODI,
Vice-President.

Municipality.—GODHRA.

Enumerated Population	Males ...	5,729
	Females ...	5,308
	Total ...	11,037

	Rs.	a.	p.
Annual Income	3,802	10	6
Expenditure on Conservancy	384	0	0

Water-supply.—There is 1 tank and 70 wells in Godhra Kásba.

From the Mesri River. Water remains in this only a short time.

The tank and wells water is sweet, and is used for drinking and washing purposes. The tank and river water is used chiefly by Musálmans. The other people drink well water. When the water ceases in the river, they obtain it by digging holes in the river sand.

The tank is called the "Muleshwar" tank, and, on the side where it adjoins the town, one place is set aside for washing and bathing, and another for taking drinking water, &c., from. The place for watering cattle at it is at a distance towards the east. The water is generally sufficient in the tank, and is clean, and the steps down to it are kept clean.

Drainage.—In some of the western portions of the town there are "pucka" gutters; and stone gutters have been made from the Borahs' quarters on the road leading towards Kálol.

Cess-pools.—There are no cess-pools provided by the Municipality.

Scavengering.—There are 1 mukádam and 28 sweepers and 20 bins for throwing the sweepings into. When they have been collected in the bins, they are taken away by the sweepers to the river and waste land and burned.

Latrines.—There are no public latrines. There are 100 private privies, but they are served by the sweepers at the expense of the owners, and not through the Municipality.

Urinals.—There are no urinals.

Markets.—There are no markets.

Burial-grounds.—There are 4 burial-grounds; one to the south, called Bábu Khán, of 2 acres 32 chains, and another, called Sheik Haji's, of 11 acres 25 chains. Another called the Kadia's, *i.e.*, the stone masons', of one acre. The other to the south-west of the town, where the Ghánchis bury, of 6 acres and 18 gunthas. There is no record of the number of burials during the year. There are other burial-grounds outside the Municipal limits.

Cremation Ghats.—There are none within Municipal limits. Bodies are burned on the river side to the south-east of the town, some 300 yards from the site of the civil station.

New Works during the year.—None.

WILLIAM ALLEN,
Vice-President, Municipality, Godhra.

AHMEDABAD.

Municipality—DHOLKA.

Enumerated Population	Males ...	10,263
	Females ...	10,591
	Total ...	20,854

Income for the year 1879-80	Rs.	10,651
Expenditure on Conservancy for the year 1879-80	„	1,510

Water-supply.—The water-supply is derived entirely from wells and tanks. Within Municipal limits there are 58 wells and 2 tanks. Of these the water of 91 wells is drinkable.

The 2 tanks are particularly fine ones, and there is a third large one just outside Municipal limits.

The water-supply may be generally described as abundant and good. But at least 3 more wells are needed for low castes. It is also desirable that all wells of drinking water should be systematically cleaned, and that the principal ones should be roofed in.

Drainage.—None.

Cess-pools.—The town is honey-combed with private sullage cess-pools, which are rarely cleaned. Under rules recently sanctioned, the abolition of this nuisance is contemplated; but it will be an extremely difficult, unpopular and expensive work.

Scavengering.—There are 1 inspector, 16 sweepers, and 3 carts, an establishment absurdly inadequate. (It has lately been much enlarged, and dust-bins will be provided next year). Town sweepings are used to a road, each day's deposit being covered with a layer of earth.

Latrines.—There are 9 public latrines; 5 brick built and 4 consisting of trenches surrounded by bamboo tatties.

It is proposed to serve all private privies by Municipal sweepers. The abolition of pit privies, and the substitution of open ones with iron receptacles, is in progress.

Markets.—There is a small fruit and vegetable market, which needs improvement.

Burial-grounds.— } Sites at a distance from the town are used for these
Cremation Ghâts.— } purposes.

New Works.—Four new latrines.

Improvement is retarded by want of funds.

Municipality—DHANDHUKA.

Enumerated Population	Males ...	5,156
	Females ...	4,626
	Total ...	9,782

Income	Rs. 7,581
Expenditure on Conservancy	„ 1,196

Water-supply.—The water-supply is chiefly derived from 32 wells and 6 tanks. The River Bhádhar is also resorted to some extent. The water of 13 of the wells and of 1 large tank is drinkable. The rest are used for watering cattle and washing. Care is taken to prevent the sources of the drinking water-supply being used for these purposes.

The large tank, above referred to, is 1,600 feet by 800 feet in extent. It is embanked, and steps lead down into it.

During the year under report 2 large wells were cleaned out, 1 was roofed over, and 2 wells for low castes were practically rebuilt. The Municipality, since its establishment, has spent nearly Rs. 15,000 altogether in improving the water-supply. On the whole, the water-supply is abundant and good. It is desirable that all the wells of drinking water should be systematically cleaned, and that the principal ones should be roofed.

Drainage.—None.

Cess-pools.—There are many private sullage cess-pools which are seldom cleaned.

Scavengering.—There are 4 Municipal peons who act as inspectors, 12 sweepers and 2 carts—an inadequate staff. Town sweepings are taken to a depôt, about half a mile to the north of the town, and are sold as manure.

Latrines.—There are 5 latrines, consisting of trenches enclosed by bamboo tatties, for women. Private privies are not served by the Municipality. They are mostly pit privies.

Urinals.—There are 8 urinals.

Markets.—There are no regular markets.

Burial and Cremation Grounds.—The arrangements are not satisfactory. The bed of the River Bhádhar is used for cremation.

New Works.—Five bamboo latrines and improvements to tanks and wells.

Municipality.—GOGO.

Enumerated Population	Males ...	4,853
	Females...	4,718
	Total ...	9,571

Annual Income.—The income of the year 1879-80 was Rs. 2,952-3-3. The chief heads of the income are as follows :—

	Rs.	a.	p.
(*a*).—Octroi duty	2,553	7	3
(*b*).—Miscellaneous	398	12	0

Expenditure on Conservancy.—The expenditure on conservancy in the year 1879-80 was Rs. 644-12-0.

Water-supply.—The water-supply of the town is derived from 22 wells and 9 tanks. The water of 6 wells and 5 tanks is drinkable. One of the chief sources of water is an open brick-built reservoir, about 120 feet by 60 feet in extent, within the walls of the town. This is filled by a closed water channel, partly cut in the earth and partly built of masonry, which leads to it from a large tank situated on rising ground on N.N.W. side of the town. The water passes through a filter of gravel or bábul thorns before entering the reservoir. The water-supply may be generally described as good in quality, but somewhat scanty in quantity during the hot weather.

The reservoir, above referred to, seems capable of being developed into a really excellent source of water-supply at no great cost. The chief defects in it at present appear to be that the tank from which it is supplied requires to be excavated and also kept clear of cattle; that the water channel needs repairs and improvement, and that the reservoir itself is apt to get dirty, partly because the bottom becomes overgrown with weeds, and partly because steps lead down into it.

Drainage.—There are no drains in the town.

Cess-pools.—There are 1,965 cess-pools, of various sizes, of brick and lime masonry; they are cleaned out periodically at the expense of the owners.

Scavengering.—The work of scavengering has been done by contract at a cost of Rs. 644-12-0; street sweepings and garbage are either buried in pits outside the walls or heaped on the sea-shore at some distance from the town at low water-mark.

Latrines.—There are 5 public latrines for men and women. The Municipality cannot afford the establishment necessary to clean them properly. Measures are being taken to ensure a more efficient service in this matter for ensuing year. The work of their cleaning has also been done by a contract.

Urinals.—There are 10 urinals in the town on the main streets; the work of their cleaning is done by the same contract as in the case of scavenging and latrines.

Markets.—There are 4 private markets which are not, however, places specially set apart.

Burial-grounds.—Thirteen acres and 23 gunthas of land have been occupied by 7 different burial-grounds on the southern and western sides of the town outside the walls. There were 97 burials during the year.

Cremation Ghâts.—Ten acres 34 gunthas of land have been occupied for this purpose on the southern side, outside the town walls. Fifty adults were burnt and 63 children were buried here during the year.

New Works.—No other new work has been constructed during the year, except 10 urinals, at the expense of Rs. 58-9-11.

Municipality—AHMEDABAD CITY.

Enumerated Population	Males ...	58,477
	Females ...	58,396
	Total ...	116,873
Expenditure on Conservancy		Rs. 51,833

Water-supply.—The water is raised from the Sábarmati River by means of two small pumping engines of 6 and 15-horse power respectively. The engines are worked at night, as it has been found on trial that water raised at night contain fewer impurities than that drawn during the day. The quantity of water pumped every day in 10 hours amounts to about 133,000 gallons; the water

thus pumped is first received in a settling basin, from thence it passes into filtering basins, and thence into the storage tanks; from this the main conduit receives its supply.

The most part of the distribution mains are of clay pipes, and with the object of reducing the pressure in the main, air-shafts have been erected at intervals of 7 or 800 feet. A scheme for increasing the supply is under consideration.

The water is distributed by means of iron stand-pipes and reservoirs, of which there are 10 reservoirs—2 single wayed stand-pipes and 15 four wayed stand-pipes.

Drainage.—In some of the main streets there are open side drains of masonry, whereas in others nitches are cut on both sides of the road during the monsoon.

Cess-pools.—None.

Scavengering.—There are 6 mukádams, 150 coolies, 30 carts and 167 dust-bins (about 13 new dust-bins have been done this year). The sweepings are taken to two night-soil depôts, situated on north and south side of the city, where they are burnt, and the ashes are then mixed with night-soil. Sometimes, when the quantity of sweeping exceeds, it is utilized for filling in the hollows outside the city wall.

The poudrette, which is made at the night-soil depôts, is sold to the agriculturists. During the year under report Rs. 2,050 have been realized from the sale of poudrette, and Rs. 77 from the sale of dry rubbish.

Latrines.—There are 24 public latrines, 2,826 Punch privies and 5,369 private privies. Independent of the above, there are 2 open fields outside the city wall and 40 deep well privies; out of the latter many of them have been since filled in. The seats in each public privy vary from 13 to 44 in number. The public as well as the private and Punch privies are cleaned by Municipal sweepers; of these there are 16 mukádams, 574 men and women, with 36 night-soil carts. Three public privies are provided with iron receptacles, and some others are being provided this year.

Urinals.—There are 27 urinaries with iron screens. The urine is removed twice a day out of masonry receptacles, which have a lining of asphalt (more urinaries are being constructed.)

Markets.—There is 1 Municipal building provided for a market, which is unoccupied; but there are 8 small and 1 large vegetable markets on private property. The meat market is also located in private buildings, but forming a range of houses on each side of the road. The subject for providing suitable buildings for a market is under consideration.

Burial-grounds.—There are 2 burial-grounds on the south side of the city (within Municipal limits), viz., one covering an area of about 1½ acres of ground, and another about a ¼; both are for Christian burials; but there are 10 or 12 places where Musálmans bury their dead outside the city wall. There have been 2,538 burials during the year 1879-80.

Cremation Grounds.—There are 3 cremation grounds outside the city wall (beyond Municipal limits); one is situated about a mile and a half on north side of the city, the second is about half a mile north-west side of the city, and the third about three-fourths of a mile south-west of the city; 6,274 bodies were burnt during the year.

New Works.—As per list in detail appended.

The increase in the number of deaths is owing to the malarious fever of a virulent type which prevailed during the months of November and December of the year under report.

List of Sanitary Improvements carried out during the year 1879-80.

New Works.	Rs.	a.	p.
1. Constructing a drain on the Railway suburb	169	6	0
2. Rebuilding of piers, arches and parapet wall of bridge at Raikhad ...	1,149	2	3
3. New urinaries	855	12	5
4. Compensation for improvement of roads	2,115	2	9
Carried over ...	4,289	7	5

	Rs. a. p.	Rs. a. p.
New Works—continued.		
Brought over ...		4,289 7 5
5. Restoration of steps of Kankaria Tank, north and east side	10,487 11 6	
6. Repairing and resetting stone facing of wall from south to east	1,963 13 8	
7. Building a new retaining wall at the back of the steps on the south side	2,392 13 8	
8. Restoring a breach on the south side	4,222 13 5	
9. Building reservoir in Nagina Wadi	1,520 9 10	
10. Building platform in front of Summer House ...	1,087 4 10	
11. Making walks in Nagina Wadi	296 13 10	
		21,972 0 9
Repairs.		
12. Current repairs to reservoirs and stand-pipes		232 11 0
13. Do. do. to Kagda Peth Hospital		92 10 1
14. Do. do. Bechardas Dispensary		112 2 3
15. Do. do. Raipur Dispensary...		198 7 0
16. Do. do. to step-well on Railway suburb...		12 10 7
17. Do. do. to Pumping Station		112 0 4
18. Do. do. to market building		40 5 4
19. Do. do. to "kucha" and "pucka" roads		12,032 4 5
20. Repairing dust-bins		349 8 4
21. Repairs to drains and culverts		1,223 4 6
22. Do. to Police stations		729 3 5
23. Excavation in ditches		1,016 11 1
24. Repairs to pucka gutters		602 9 6
25. Do. to public privies and urinaries		927 10 3
26. Do. to Karanj and water works garden		582 5 9
Total ...		44,526 0 0

Municipality—VIRAMGA'M TOWN.

Enumerated Population	Males ...	8,125
	Females ...	7,977
Total ...		16,102

	Rs. a. p.
Annual Income	28,633 14 0
Expenditure on Conservancy	8,455 10 2

Water-supply.—There are two Wávs, viz., Rajbai's Wáv and Lowar's Wáv; animals drink from the former, especially during the summer and the monsoon, when there is a scanty rain-fall. Rajbai Wáv is beyond the Municipal limits, and Lowar's Wáv is situated near the Rokadia Hanuman. There are 3 tanks, viz.:—

1. *Gangasar Tank.*—It is a very large one. Embankment and steps are made out for fetching water. It is used for drinking and other domestic purposes. Bathing and clothes-washing are strictly prohibited here. It appears to have been cleaned out 15 years ago, when the water was all dried up.
2. *Gadasia Tank.*—It is situated within the town; bathing and clothes-washing are permitted here. Embankment and steps are made on one side, and slope of stones is made on the other. Two peons, engaged by the Municipal Committee, keep a strict watch, and prevent any dirt or filthy substance being thrown here. In these tanks water is supplied from Kadi Pargana occasionally; in the dry season the supply fails.
3. *Moonsar Tank.*—Banks and necessary steps are made to it on all sides. Bathing, clothes-washing and cattle-watering are permitted here. There is a yearly removal of the slime and weed that collects on its surface. It is filled by a supply from Bhogáva village and from the town in the monsoon. It appears to have been cleaned out 15 years ago, and the Municipality takes notice of any filthy substance being thrown here.

In addition to the tanks there are 11 wells—

1. Narsindas' well. It is not within the Municipal limits, and was cleaned out before the establishment of the Railway station in the town.
2. Mohan Gordhan's well. It was cleaned out during the year 1878-79.
3. The well outside and opposite to the Golwadi gate and adjoining Mr. Whittle Anderson's Mill. It was cleaned out during the year 1877-78.
4. Full Kuva on the road leading to the station. It is not cleaned out.
5. Two new wells near each other on the road leading to Nawagam village.
6. Bhatt's Kuva near Rokadia Hanuman. It was cleaned out in the year 1878-79.
7. Khoch Kuva near the Travellers' Bungalow. It was cleaned out in the year under report.
8. Limri Kuva. It is to the east, outside the Bharvari gate. All these wells are used for drinking and other domestic purposes.
9. Zandia Kuva. It is situated within the town.
10. Veria's well. It was cleaned out in the year 1878-79.
11. A well in the Police line and another well of brackish water. They have been cleaned out. These latter 3 wells are not used for drinking purposes.

Drainage.—Drains of brick and lime masonry are made for the passage of the rain water from the Bharvadi gate towards the road leading to the bázár.

Cess-pools.—In all there are 362 cess-pools, out of which 360 are private and 2 belong to the Municipality; 27 of these are pucka and 335 kucha. These are kept in a clean state both by the Municipality and at the expense of the people.

Scavengering.—There are 4 mukádams at Rs. 7 each, 15 bhangis at Rs. 4 each, and 4 carts at Rs. 25 each, and 15 dust-bins in the town. The sweepings are taken in carts to a depôt on the Dhunia tank, outside the town and behind the Munsar suburb, at the distance of about 1,500 feet from the gate, with a view to filling up the hollows. The manure is, with few exceptions, not used, and so yields no profit. But certain cultivators now request that quantities of night-soil be thrown upon their fields, for the purposes of manure, without any charge.

Latrines.—There are 6 latrines of the Municipality. They are made of burnt clay and lime.

1. Outside the Munsir gate there is a latrine divided into two parts, and containing in all 101 seats, for males and females.
2. Outside the Gangasar gate is a latrine divided into two parts, and containing in all 78 seats, for males and females.
3. Upon the Khadia is a latrine divided into two parts, and containing in all 16 seats, for males and females.
4. Outside the Bharvadi gate is a latrine divided into two parts, and containing in all 70 seats, for males and females.
5. Outside the Golvadi gate is a latrine divided into two parts, and containing in all 78 seats, for males and females.
6. Parkhot's latrine is divided into two parts, and contains in all 16 seats, for males and females. In some of these latrines baskets of cane are used as receptacles, and the night-soil is removed by bhangis. Female privy-rooms are not provided with a wall, but those for males have walls raised to protect each from the other's sight. The latrines are washed twice a week, viz., on Sundays and Wednesdays. Signis powder is scattered over them to prevent any stench. Four iron carts have been ordered from Bombay; but as the Committee have not purchased pairs of bullocks, the carts have fallen into disuse.

There are 273 private latrines in the town, of which 96 are cess-pools, and 177 are fit to be swept. People get them swept and cleaned by bhangis at their own expense.

Urinals.—Altogether there are 11 urinals. They are on the cess-pool principle. Out of these 7 have walls of iron plates raised on their sides, and 4 have brick walls made about them. No separate establishment is maintained for cleaning them, but they are washed by the 15 scavengers mentioned above twice

a week, viz., on Sundays and Wednesdays. Powder or lime is thrown upon them, and inspectors superintend the work.

Markets.—No market is maintained by the Municipality.

Burial-grounds.—Burial-grounds on the four sides of the town are as follows:—

Name.	Length.	Breadth.	Name.	Length.	Breadth.
Shekjada ...	170	45	Rawalji ...	100	50
Do. ...	90	20	Rupdasji ...	50	50
Nai	550	170	Dugripur ...	550	225
Do.	225	45	Dhobis ...	175	70
Od	98	20	Travellers ...	80	20
Ganchi Hora ...	525	170	Gajwasa ...	85	125
Kásampur Hora ...	150	90	Do. ...	336	150
Solankipur ...	233	340			

Besides these there are other burial-grounds in and outside the town; but, as the Government have strictly forbidden burial here, they are out of use, and hence do not require mention in this report. Moreover, there are some beyond the Municipal limits, and corpses are also buried there. The number of burials in the several burial-grounds is not ascertainable in the absence of proofs in the Police records, which have been destroyed, and hence the number is not given here.

Cremation Ghâts.—Near Adnapal, behind Mansar tank and to the west of the town.

To the north, beyond the Railway precincts, outside the Golvadi gate.

To the east, near Kangalpuri, outside the Rahiapur gate. The number of bodies cremated is not ascertainable in the absence of proofs in the Police records, which have been destroyed, and hence the number is not given here.

New Works.—New gate door constructed at the Golvadi gate. Main road constructed from the Bharvadi gate leading to the bázár. Its length is 900 feet and breadth 25 feet, and drains of bricks and lime are made on both sides of the road.

New kitchen made to the dharmshála at Rokadia Hanuman Police gate.

The Population.—The people here are in a prosperous condition. The trade is chiefly in cotton, and is in a flourishing state. Labourers earn good wages

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Municipality—PARA'NTI'J TOWN.

Enumerated Population	Males ...	4,242
	Females ...	4,099
	Total ...	8,341

	Rs.	a.	p.
Annual Income	3,259	5	2
Expenditure on Conservancy	719	2	2

Water-supply.—There are 5 wávs. There is always an abundant and a clean supply of water in them. They are used for drinking, clothes-washing and bathing purposes.

There are 3 tanks. None of these are surrounded by pucka stone work. They are used for drinking, clothes-washing and bathing purposes.

There are in all 101 wells, of which 2 are solely used by Dheds and bhangis, and 18 by people in general. The remaining 81 are private.

All of these wells are surrounded by iron fences, and contain sweet water.

Drainage.—Pucka drains are made from the Kacheri to the Chabutra, from the Chabutra to the Lal Darwaja and from the Chabutra to the Barber's Limri right through the new market, for watering the roads. Kucha drains are, however, made in the monsoon for the passage of the water.

Cess-pools.—There are 143 cess-pools. They are made of brick and lime masonry. They are not cleaned by the Municipality, as they are attached to the houses of Horas, who clean them at their own expense.

Scavengering.—Fourteen scavengers are employed by the Municipality at Rs. 24 per month. There is one honorary mukádam. There are no dust-bins in the town. The sweepings are carried by bhangis on their heads to certain uncultivated portions of land outside the town, and at the distance of about one field from it, and are stored there. The dust and manure are not sold by the Municipality; but they are given away to bhangis in consideration of the small pay they receive.

Latrines.—There is one Municipal latrine. It is not regularly built; no seats are provided in it. Two pits dug in the ground are surrounded by a hedge, and when they are filled up, two new pits will be dug; one female bhangi, at Rs. 3 per mensem, is employed to clean this latrine.

There are 26 private latrines; people clean them at their own expense.

Urinals.—There are 11 urinals, 6 of which are of brick and lime masonry, and the remaining 5 are made of iron plates. Two bhangis, at Rs. 3 each, are employed to clean them.

Markets.—No market is maintained by the Municipality. But temporary sheds, resting on pieces of wood, are made on 2 open spots—one near the Municipal Office, and the other a little away from it. Five shops made therein yielded a rent of Rs. 37-8-0 during the year under report.

Burial-grounds.—There are 6 burial-grounds, viz.—

1. Balapir, of 35 gunthas, on Survey No. 3, Pot No. 2, to the north of the town, and about two fields off.
2. Of 19 gunthas of land, on Survey No. 302, Pot No. 3, to the east of the town.
3. In Bhibansa, of 1 acre and 21 gunthas of land, on Survey No. 492, Pot Nos. 2 and 3, to the east of the town.
4. Shikandurpira, also to the east of the town and of 19 gunthas of land, on Survey No. 492, Pot No. 3.
5. On Nana Bokh, to the west of the town, of 37 gunthas of land, on Survey No. 789, Pot No. 2.
6. On Mota Bokh, to the north-west of the town, of 4 acres of land, on Survey No. 792, Pot No. 3.

Eighty-two bodies were buried in these burial-grounds during the year under report.

Cremation Ghâts.—There are 3 cremation ghâts on Mota Bokh, viz., (1) of 30 gunthas of land, on Survey No. 792, Pot No. 4; (2) of 10 gunthas of land, on Survey No. 792, Pot No. 5; (3) of 4 acres of land, on Survey No. 956, Pot No. 2.

Young Hindu children are buried in the last cremation ghâts. In all 310 bodies were cremated and buried during the year under report.

New Works.—A well and a verandah were constructed for the benefit of strangers for Rs. 154-13-0. Six urinals were made for Rs. 154-6-6.

Population.—The people here are in a prosperous condition.

Municipality.—Moda'sa Town.

Enumerated Population	Males ...	3,730	
	Females ...	3,706	
	Total ...	7,436	
		Rs.	a. p.
Annual Income	...	2,326	13 8
Expenditure on Conservancy ...	...	2,263	10 7

Water-supply.—There is no tank within the Municipal limits; but the river Májham, to the north of the town, is used by people for drinking purposes. When, however, the water in it is all dried up, they go to a waterfall for bathing and clothes-washing. It is about a mile distant from the town. There are 7 large wells with steps; 3 of these are used by the inhabitants for drinking

and other domestic purposes; the other 4 are situated in the fields, and are used by the cultivators. There are 68 smaller wells, of which 19 only are situated in the town and used for drinking purposes. The remaining 49 are used by cultivators. The water of the wells outside the town is sweet.

There are no public reservoirs (hoj). Two hojs, situated in Horivad, and constructed by the Hora community, are filled with water every fourth year.

Two cattle troughs are attached to 2 of the wávs mentioned above. These troughs are filled by the Municipal servants, and are used for cattle drinking.

Drainage.—No drains are made in the town.

Cess-pools.—There are 100 kucha cess-pools in the town, 59 of which are in Horivad, 16 in Nani, and 25 in the houses of Hindus. The people clean them at their own expenses.

Scavengering.—Eleven scavengers, at Rs. 3 each, are employed by the Municipality. Servants of the Municipal Office superintend the work of sweeping, as no mukádams are engaged for that purpose. The sweepings and dust are collected in 12 hollows in the town assigned for that purpose. The Municipal income is too small to afford the expense of making dust-bins. The sweepings are then carried in carts hired by contract outside the town, and are stored at the distance of one mile from the town in Survey No. 406. The dust and sweepings are then sold by a public auction, and the income derived therefrom in the year under report was Rs. 35-5-5.

Night-soil and manure are stored in a depôt at some distance from the town; they yield no profit.

Latrines.—There is one public privy for females. Two bhangis, at Rs. 5 each, are employed by the Municipality to clean this latrine. In all it contains 20 seats, 10 of which are near the eastern wall, and the other 10 near the western. These seats, made of clay and lime, are 2 feet apart, and are always kept clean. No baskets or iron receptacles are placed in them.

Out of 46 private latrines, 17 cess-pools are cleaned by the people at their own expense.

Urinals.—No fixed places are assigned for this purpose as the Municipal income is very small. People, therefore, resort for natural purposes to street corners, and these places are cleaned by scavengers employed on the roads.

Markets.—No market is maintained by the Municipality.

Burial-grounds.—There are 4 burial-grounds in this town, viz. :—

I.—Muktamji Laore Saheb's; it is beyond the Municipal limits, and about a mile distant from the town. It is 960 feet long from east to west, and 640 feet broad from north to south.

II.—Saida's; it is beyond the Municipal limits, and a mile off from the town. It is 240 feet long and 150 broad.

III.—Nine hundred Peer's; bordering the road leading to Pahadpur. It is a mile distant from the town, and is 192 feet long and 880 feet broad.

IV.—One within the Municipal limits and inside the town of Sidhi Mufta Natkicha. It is 240 feet long and 160 feet broad.

Thirty Mahomedan bodies were buried in these burial-grounds during the year under report. There is a fifth burial-ground near the Navgaja Peer in the territory of the I'dar State in Mahi Kántha. Bodies of Khatkis and Bohoras residing in foreign territory are buried here.

Cremation Ghâts.—There are 2 cremation ghâts; 1 is near Kolia Dhara on the Májham River and within Municipal limits. It is 80 feet long and 41 feet broad, and the other, for Dheds and bhangis, is on the river near the road leading to Pahadpur. It is 150 feet long and 60 feet broad.

Seventy-seven bodies were cremated and buried in these ghâts during the year under report.

New Works.—The road from the Municipal Office to the bázár, 500 feet long and 12 feet broad, was metalled at an expense of Rs. 500.

The population in the town consists of Brahmins, Chhipas, Musálmans, *i.e.*, Kasbatis, Ghánchis and Horas. The Mahomedan population is greater than the Hindus. The Ghánchis keep cattle and maintain themselves by working at their mills. Many necessary improvements are not made by the Municipality as its income is very small. The town, in appearance, resembles a large

village. The town is in an average condition. The trade of Banias, especially, flourishes.

J. B. RICHEY,
Collector of Ahmedabad.

KARA'CHI.

Municipality—KARA'CHI.

Enumerated Population	...	56,753	
	Rs.	a.	p.
Annual Income	2,50,000	0	0
Expenditure on Conservancy	48,929	6	3

Scavengering.—Street conservancy.

Conservancy Establishment.—The establishment maintained by the Municipality in the 24 quarters of Karáchi in connection with sanitary matters consists of the following, viz.:—

2 Chief Inspectors of Nuisances;	130 Sweepers, with
8 Sub-Inspectors of Nuisances;	30 Scavenging carts and
14 Mukádams;	4 Cess-pool carts.

The private sweepers, *i.e.*, sweepers not in Municipal employ, are said to number about 150; but it is known that most of the Municipal sweepers are amongst those thus employed.

The private sweepers attend to the latrines, bungalows and compounds of those who employ them.

The duties of the Municipal sweepers are entirely confined to sweeping and keeping clean the public roads and thoroughfares, and depositing in the scavenging cart, as it comes through their beats, the sweepings which have been collected at various points along the route.

They also attend to all public latrines and urinals.

In the Sadar Bázár and Camp, although the latrines all belong to private houses, the night-soil from them and all refuse and sweepings from bungalows are invariably removed by the Municipal carts, provided the private sweepers are there to fill them.

This removal is effected in the morning between 5-30 and 9-50, and in the evening between 2-30 and 6-30; the sweepings are deposited at the burning kilns, which will be described later on.

Disposals of sweepings, &c.

The manure-yard for the native town stands about one mile to the north of the town; there is another manure-yard for the reception of the rubbish of the Camp and Sadar Bázár, which stands to the north-east of the Civil Lines and the Sadar Bázár, and about 1½ miles from the latter place.

At both places kilns have been built to facilitate the burning of certain kinds of rubbish. The prevailing wind is from the south-west, so that the inhabitants suffer no inconvenience from smoke from either of the kilns. Night-soil is, as far as possible, buried in trenches dug for the purpose within the yards; the trenches are, after a sufficient time has elapsed, opened out by the contractor for the town sweepings, and the contents sold by him to the market gardeners in the neighbourhood. As the population is increasing towards the town kiln, it will perhaps be necessary soon to remove the site still farther off.

Cess-pools.—In the native town there are about 550 cess-pools, and in the Sadar Bázár 114. These were chiefly built many years ago, since the Municipality insisted on the drains leading into them being properly trapped, and a ventilating pipe being carried up the outside wall of the house to a few feet above the eave; few cess-pools are now built; all are cleaned out periodically, and the contents removed in iron tank carts.

Public Latrines.—The public latrines of Karáchi are of two kinds—1*st*, areas enclosed by walls of stone and lime, and, 2*nd*, areas enclosed by wooden posts and date-matting.

The floors are of sand, which is removed periodically and replaced by fresh material.

The temporary latrines are considered the best, as they are cheap, and the process of cleaning is easily accomplished by burning the whole structure.

Most of the latrines are without roofs.

Slaughter-houses.—The slaughter-houses, of which there are two, are entirely under the supervision and control of the Municipality : the one for the Camp and Sadar Bázár is situated about 1½ miles distant from the Bázár; the other is at Muchi Meam, near the left mouth of the Layári River.

The houses and yards are enclosed by substantial stone walls, and the compounds are paved with flat stone, and a sweeper is stationed at each slaughter-yard for the purposes of keeping it clean.

The cess-pools are emptied once a day, and the contents are taken away in an iron tank cart.

Water-supply.—The water supplied to Karáchi is anything but what it should be, being deficient in quantity and bad in quality; it is chiefly got from small wells dug in the dry bed of the Layári, and from a few larger wells dug in the gardens and in the vicinity of the rain water tanks, and is more or less brackish.

Shapoorjee's Well.—The best well, or one of the best in Karáchi, is that known as Shapoorjee's well, near the Artillery Lines, whence many of the inhabitants of Civil Lines and Sadar Bázár are supplied.

Rain water Tanks.—The rain water tanks, until they become dry, are also sources of supply of drinking water for the people who live in their neighbourhood. But as they catch the surface drainage of all the outlying villages, and as the nálas by which the water passes into them are often used as latrines, it is impossible that the water they contain can be of a quality fit for drinking.

Names of Tanks.—The tanks are six in number, and are as under :—

1*st*—Soldier Bázár Tank.	4*th*—Rutton Tank.
2*nd*—Runchore Tank.	5*th*—Preedy Tank.
3*rd*—Rambaugh Tank.	6*th*—Nanukwada Tank.

Soldier Bázár Tank.—Soldier Bázár tank is only used for excavation, and is not much used at any time as a reservoir of drinking water, as it is considered by the natives too dirty. The main feeder on the north of the bázár runs close past the rows of huts called Bhistwara and past also two large latrines, and, in its course, receives the filth from the people living there, as well as from the latrines on the bank of the nála. To the south of the bázár are also located cow-keepers who tether their animals close to the nála.

Runchore Tank.—Runchore tank is lined with masonry, and receives the surplus water of Soldier Bázár tank besides the drainage of the surrounding area. Within this area are several public and private latrines.

Rambaugh Tank.—Rambaugh tank is also built of stone and lime, with steps, for the use of the public and ramps for cattle. It is in connection with the two previously named, and receives the surplus water of the one last named; when it is full, the water backs up along the channel which unites it with Runchore tank, and then escapes over a waste weir, and eventually finds its way to the sea.

This tank does not receive much contamination from the surrounding country, and may be considered as one of the best, as it is the largest of all the tanks, and, were it not affected by the overflow from the other tanks, would contain comparatively pure water.

Rutton Tank.—Rutton tank is within Military limits and near the Artillery Lines, and receives all the drainage of the Military parade-ground west of Napier Barracks, which is comparatively inoffensive. The water, however, in passing along Preedy Street, collects all the drainage of the northern portion of the Sadar Bázár, which cannot be said to be altogether harmless.

The water, which overflows from Rutton tank, finds its way to the sea.

Preedy Tank.—Preedy tank stands in the plain to the north of the Civil Hospital, and is built of masonry; it catches the drainage of the country lying

between Runchore Lines and Ramsamy Ghareekhota, near which there are several large latrines: it discharges into the 6th and last tank to be mentioned here.

Nanukwada Tank.—Nanukwada tank is also of masonry. It lies lowest of the whole series, and receives, like the others, the drainage of the surrounding inhabited places.

The efforts made to keep all the feeders and drainage areas within the inhabited limits clean are successful.

15. *Markets.*—The markets, both for town and Camp, are substantially built of stone, with paved floors and tiled roofs.

There are separate divisions for sale of meat, vegetables and fish.

J. STRACHAN, C.E.,
Engineer and Secretary, Karáchi Municipality.

Municipality—MIRPUR BATORO.

Enumerated Population	Males ...	1,567
	Females...	1,279
	Total ...	2,846

	Rs.	a.	p.
Annual Income	6,502	4	11
Expenditure on Conservancy	782	12	5

Water-supply.—Fatiahwáh, a Government canal. The water of this canal is used for drinking and other purposes in the months of June, July, August and September. There are two steps for public convenience in the canal.

There is one tank with steps. This tank gets water from the Fatiahwáh, and holds water for the whole of the year.

The water of this tank is used for drinking purposes only.

It was cleared in 1879.

There is one tank without steps. It is never cleared, and no repairs made. It gets water from the Fatiahwáh, and holds water for the whole of the year. It is used for bathing, clothes-washing and for all other purposes.

In addition to the above there are (3) three public wells in the Municipal garden. The supply of one never fails, and of the other two fails for a short time only. One of the wells was cleared in 1874. There is one private well also.

Drainage and Cess-pools.—There are no works of drainage and cess-pools in this Municipality.

Scavengering.—There is 1 mukádam and 6 sweepers, and no dust-bins. The sweepings are carried to pits out of the town and burnt, and the ashes are spread. Night-soil is taken to a place about 700 feet east of the town and buried in earth.

Latrines.—There are 4 latrines on the dry-earth system—2 for men and 2 for women. They have no seats. They are cleared by 2 sweepers. Thirty private privies are served by Municipal sweepers. Earthen receptacles are used.

Urinals.—None.

Markets.—There are 2 markets—1 for vegetables, fruits, &c.; the other for meat and fish. The sheds are good. Floor is plastered with mud. Meat is either kept hanging on or kept in skins, and fish is kept in baskets.

Burial-grounds.—One (1) burial-ground is in use. It is to the north of the town, about 400 feet from the town. Its area is one acre and a half. Ninety bodies were buried during the year.

Cremation Ghats.—One (1) to the north-east of the town, 1,000 feet from the town. Its area is 2 gunthas. Thirty-two bodies were burnt during the year.

New Works.—None. Former works existing at present: 2 markets, 1 cattle-pound, 3 wells, 4 steps in tank, 1 dharmshála, 2 steps in Fatiah, and 8 bridges and 1 sluice.

Municipality—SEHWAN.

Enumerated Population	Males ...	2,263
	Females ...	2,113
	Total ...	4,376

	Rs.	a.	p.
Annual Income	7,035	12	11
Expenditure on Conservancy	1,745	0	0

Water-supply.—There is a river, called the "Aral," below the town. People use its water generally for drinking and other domestic purposes. Precautions are taken with regard to bathing and clothes-washing at times when found necessary. There are, besides, 7 public wells without steps, the water of which is used by people for drinking purposes. They are well-built, and have parapets. The supply never fails, and they are cleaned out when necessary.

Drainage.—There are no drains in the streets; but there are 10 culverts on the roads to take away the rain water from the town.

Cess-pools.—None.

Scavengering.—There are 1 mukádam, 13 sweepers and 4 dust-bins. No carts. The sweepings are taken on the sweepers' donkeys to a depôt on the south of the town, at a distance of half a mile, where they are burnt.

Latrines.—There are 5 public latrines with seats, but without iron receptacles. There are, besides, 5 sweepers who clean the private privies. There are no iron night-soil carts. The night-soil is taken to the west of the town, at a mile's distance, where it is deposited in pits. There is no demand for it as manure.

Urinals.—None.

Markets.—There are two markets—one for mutton and fish, and the other for vegetables. They have plinths, and are kept clean. There is a slaughter-yard at half a mile's distance.

Burial-grounds.—One to the south and the other to the north of the town; the former is of 30 acres, and the latter of 2 acres. There were 60 burials during the year.

Cremation Ghâts.—One to the south of the town, at half a mile's distance. There were 47 bodies burnt during the year.

New Works.—None executed during the year.

Municipality—JOHI.

Enumerated Population	Males ...	612
	Females ...	507
	Total ...	1,119

Annual Income	Rs.	1,772
Expenditure on Conservancy	„	310

Water-supply.—There are 6 wells without steps, the water of which is used by the people for drinking and other domestic purposes. Clothes are not washed in the water of the wells. They are cleaned out when necessary, and their supply never fails. There is a canal, called the Western Nára, about 2 miles from the town. The clothes are washed there. The cattle are watered from the wells.

Drainage.—There are no drains in the streets; but there is one culvert at one extremity of the town, which takes away the rain water and discharges it in a hollow.

Cess-pools.—None.

Scavengering.—There are 1 mukádam and 4 sweepers. No carts or dust-bins. The sweepings are taken to the south of the town, at half a mile's distance, and burnt.

Latrines.—There are 4 public latrines—2 for males and 2 for females, each of 6 seats, without iron receptacles. They are kept clean by Municipal sweepers. People make their own arrangements to keep their private privies clean. The night-soil is disposed of with the sweepings. There is no demand for it as manure. There is no night-soil cart.

Urinals.—None.

Markets.—There is one market for vegetables. There is no mutton and fish market. Butchers sell mutton at their own premises, and fish is sold in the square of the market. It is well looked after, and is kept clean.

Burial-grounds.—There is one to the south of the town, in which 6 persons were buried during the year.

Cremation Ghâts.—There is one to the north of the town at a distance of 1 mile. There were 16 bodies burnt during the year.

New Works.—None executed.

Municipality—KOTRI.

Enumerated Population	...	...	...	...	7,949
Annual Income ...	...	...	...	Rs.	13,637
Expenditure on Conservancy	...	...	...	„	3,525

Water-supply.—There are 3 public wells without steps; besides there are 30 private wells, the water of which is used by some people for drinking purposes, and mostly it is used for watering gardens. The River Indus runs close to the town. People, in general, use its water for drinking and other domestic purposes.

Drainage.—In the main streets there are open side drains of masonry; in the side streets there are mere cuttings. There are, besides, culverts on the Municipal roads.

Cess-pools.—None.

Scavengering.—There are 1 mukádam, 20 sweepers, 6 carts and 32 dust-bins. The sweepings are taken to a depôt on the south of the town, at a little distance, where they are burnt.

Latrines.—There are 2 public latrines—1 of 8 seats, and the other of 16 seats, in which iron receptacles are used. The Municipal sweepers clean them. There is one iron night-soil cart. At present people make their own arrangements to get their private privies cleaned; but it is proposed to do this through the agency of the Municipality, and charge Halálkhor cess for it. More latrines are to be built. The night-soil is buried. There is no demand for it as manure.

Urinals.—None.

Markets.—There are 2 markets—1 for mutton and fish, and the other for vegetables. There are good plinths and paved floors, and both are well looked after and kept clean.

Burial-grounds.—There are in all 14 burial-grounds within Municipal limits: 2 for Europeans, one of which is closed, and 12 for Musálmans and Hindu children. The cemetery in use for Europeans is to the south-west, and is of 2 acres in area. All others are under 1 acre. There were 109 burials during the year.

Cremation Ghâts.—There is one to the south of the town. There were 61 bodies burnt during the year.

New Works.—None executed during the year.

Municipality—DA'DU.

Enumerated Population	Males. / Females.	2,198
		Rs.
Annual Income		2,875
Expenditure on Conservancy		707

Water-supply.—There is a canal called Ghari and a tank close to the town, the water of which is used for drinking and other domestic purposes during the inundation season. There are, in addition, 5 public wells without steps, which are used throughout the year. They are cleared out when necessary, and their supply never fails. Cattle also are watered there.

Drainage and Cess-pools.—None.

Scavengering.—There are 1 mukádam, 10 sweepers and 3 dust-bins. No carts. The sweepings are taken to a depôt at a little distance from the town and burnt.

Latrines.—There are 10 public latrines, each of 24 seats, without iron receptacles, which are kept clean by Municipal sweepers. The people make their own arrangements to get their private privies cleaned. The night-soil is taken far from the town and buried into pits. There is no demand for it as manure.

Urinals.—None.

Markets.—There are 2 markets—one for mutton and fish, and the other for vegetables. They have paved floors and plinths, and are well looked after.

Burial-grounds.—There is one of 4 acres to the south of the town, in which 14 persons were buried during the year.

Cremation Ghâts.—There is one below the town. There were 13 bodies burnt during the year.

New Works.—None.

Municipality—MA'NJHAND.

Enumerated Population	Males ...	1,387
	Females ..	1,267
	Total ...	2,654
		Rs.
Annual Income		2,031
Expenditure on Conservancy		383

Water-supply.—There is a branch of the river to the east of the town, at a very short distance, which serves the people for drinking and all other domestic purposes. Cattle are also watered there. Its supply never fails.

Drainage and Cess-pools.—There are no drains and cess-pools in the town.

Scavengering.—There are 6 sweepers. There are no carts and dust-bins. The sweepings are taken to a place to the north of the town, at about half a mile's distance, where they are burnt. There is no demand for night-soil manure.

Latrines.—There are 8 public latrines on the dry-earth system—each has 18 seats without receptacles. There are 15 private privies which are not cleaned at Municipal expense, but the inhabitants make their own arrangements to get them cleaned. There are no iron night-soil carts. The night-soil is disposed of with the sweepings.

Urinals.—None.

Markets.—There are 2 sheds—1 for mutton and fish, and the other for vegetables. They have no plinths and paved floors, and both are well looked after.

Burial-grounds.—There is one of 2 acres on the north-east of the town. There were 63 burials during the year.

Cremation Ghâts.—None within Municipal limits; but there is one outside the Municipal boundaries to the south of the town at ¾ mile's distance. There were 23 bodies burnt during the year.

New Works.—None executed.

Municipality—BUBAK.

Enumerated Population	Males ...	1,453
	Females...	1,383
	Total ...	2,836

Annual Income	... Rs.	4,059
Expenditure on Conservancy	... ,,	676

Water-supply.—There is a canal below the town. The people use its water for drinking and other domestic purposes. Cattle are also watered there. Its supply never fails, except for a month or two, when kutcha wells are dug in the bed of the canal for drinking water. Pucka wells will shortly be built.

Drainage and Cess-pools.—None.

Scavengering.—There are 1 mukádam and 6 sweepers. No carts and dust-bins. The sweepings are taken on the sweepers' donkeys to a depôt at a distance of half a mile from the town, whence the cultivators take them away for agricultural purposes.

Latrines.—There are 4 public latrines with seats, but without iron receptacles, which are kept clean. People make their own arrangements to get their private privies cleaned. There are no night-soil carts. The night-soil is taken to the north of the town at a mile's distance, where it is deposited in a pit and burnt.

Urinals.—None.

Markets.—There is a market for mutton, fish and vegetables, which is well looked after. It has a plinth.

Burial-grounds.—There are 4 burial-grounds—2 to the north and 2 to the east of the town. Two are of 2 acres each. One of 1½ acres and one of 1 acre. There were 47 burials during the year.

Cremation Ghâts.—There is one at a distance of ¼ mile from the town. There were 16 bodies burnt during the year.

New Works.—None executed.

H. E. WATSON,
Deputy Collector of Sehwan.

Municipality—TATTA.

Enumerated Population	Males. ...	3,836
	Females....	4,115
	Total ...	7,951

	Rs.	a.	p.
Annual Income	... 11,894	6	3
Expenditure on Conservancy	... 1,769	1	3

Water-supply.—There are 17 tanks, out of which 7 are reserved for drinking purposes only, the remaining 10 are used some for washing clothes at, and others for watering cattle at. During the inundation season fresh water is allowed to flow through canals into all the tanks.

The water-supply in some of the drinking tanks fails about March or April; but in the largest tank, which is called the Fazul Beg, it never fails.

Two of the drinking water tanks are cleaned at the expense of the Municipality, and the 5 others, which are used for the same purpose and belong to wealthy natives of the town, are cleaned and kept in repair by the owners.

In addition to the tanks there are 3 public wells—2 of them have steps. They are cleaned out when necessary.

Drainage.—None.

Cess-pools.—There are 1,500 cess-pools of various sizes. They are cleaned out periodically by the owners.

Scavengering.—The scavengering establishment consists of a mukádam and 19 sweepers. There are 39 dust-bins situated at convenient places in the town.

The people put the sweepings from their houses into these dust-bins, and the scavenging carts, 4 in number, remove them from there to depôts, situated nearly a mile to the east and west of the town, where they are burnt.

Latrines.—There are 4 large public latrines on the dry-earth system. Two of them have 12 seats, and the 2 others have 8 seats each.

Urinals.—There are no urinals.

Markets.—There are 3 markets conveniently situated—one for meat, the other for fish, and the third for vegetables. They have all plinths, and are kept in good repair and clean.

Burial-grounds.—There are 10 burial-grounds within the Municipal limits of the town, which are not used now. There is only one burial-ground, area 5 acres, in use within Municipal limits. Hindu infants alone are buried in it; all Mahomedans who die in Tatta are buried on the Mukli Hill, about 1½ miles from Tatta, and outside the Municipal limits. There were 92 burials during the year.

Cremation Ghâts.—There are 2—one to the north and the other to the south of the town. There were 54 bodies burnt during the year.

New Works.—Additions and alterations to the buildings used for the Anglo-Vernacular and Vernacular Schools were carried out during the year at a total cost of Rs. 1,209-7-6, half the cost having been paid by the Municipality.

A new latrine, on the dry-earth system, was also built in connection with the school at a cost to the Municipality of Rs. 49.

The Apothecary in charge of the Dispensary visits the town nearly every day, and pays strict attention to all sanitary arrangements, bringing to notice defects, and suggesting remedies, where necessary.

Municipality—KETI.

Enumerated Population	Males ...	1,420
	Females...	779
	Total ...	2,199

	Rs.	a.	p.
Annual Income	7,039	13	1
Expenditure on Conservancy	802	11	8

Water-supply.—People of this Municipality use water of the River Indus, which flows just below the town.

Drainage.—None.

Cess-pools.—None.

Scavengering.—There is 1 mukádam, 7 sweepers, 2 carts and 10 dust-bins. The sweepings are taken to a depôt on the south of the town, 500 feet distance, where they are burnt; owing to the town being surrounded by water, the sweepings cannot be deposited at a further distance from the town.

Latrines.—There are 6 public portable wooden latrines.

Urinals.—None.

Markets.—There is a market which has been erected for beef, mutton, fish and vegetables. The structure consists of wooden posts and thatched roof. Owing to danger from encroachment of the river, temporary buildings have to be erected.

Burial-grounds.—One on the south-east of the town—area 3 acres and 21 gunthas. There were 31 burials during the year.

Cremation Ghâts.—None. The dead bodies are taken to the west of the town on the bank of the river, where they are burnt, and the ashes thrown into the river, about a mile away from the town. There were 15 bodies burnt during the year.

New Works.—A new (bund) embankment for the protection of the town was erected at a total cost of Rs. 521-9-9.

S. W. TYNDALL,
Deputy Collector of Jerruck.

HYDERABAD.

Municipality—KANDIA'RO.

Enumerated Population	Males	1,262
	Females	1,296
	Total	2,558

	Rs.	a.	p.
Annual Income	1,421	6	3
Expenditure on Conservancy	372	0	0

Water-supply.—There are 14 wells within Municipal limits. They contain good drinking water. The inhabitants supply themselves from them. Besides these wells there are 2 large tanks which are filled from the River Indus during the inundation. These are used for watering cattle, bathing and washing clothes. They dry up in October when the river falls.

Drainage.—There is no arrangement for drainage. The village is built on a mound about 50 feet above the surrounding country. When rain falls, it runs off the streets in a few hours. The rain-fall is very slight, averaging 1 inch 60 cents per annum.

Cess-pools.—None.

Scavengering.—There are 5 sweepers and 1 mukádam. The sweepings are carried out of the town, and thrown in the neighbouring fields. It is, if suitable, used as manure; if not, it is burnt. There is no sale for sweepings, &c.

Latrines.—There are 2 latrines built by the Municipality with 20 seats each. They are kept clean by the sweepers above mentioned. They are very rarely used by the people, who like better to go into the jungle round the town.

Urinals.—None.

Markets.—There are two markets—one used for meat and fish, and the other is let out to vegetable, grain and miscellaneous dealers. They have plinths, and are paved. They are cleaned daily.

Burial-grounds.—There are 4 burial-grounds. One within the limits of the town is not used. Two are on the east side of the town of 11 acres, and one on the west, 1½ acres. Thirty-nine burials are reported, and 24 bodies were burnt during the year.

Cremation Ghâts.—None. Bodies are burnt a mile to the west of the town—a spot enclosed and set apart for the purpose.

New Works.—A drinking trough for cattle and a screen for bathers at one of the wells were built.

Municipality—NAUSHAHRO.

Population	Males ...	1,552
	Females...	1,398
	Total ...	2,950

	Rs.	a.	p.
Income	1,601	2	4
Expenditure on Conservancy	372	0	0

Water-supply.—There are 33 pucka wells in the town, of which 10 are in constant use. There is one large tank with steps, used for bathing, washing clothes and watering cattle. It holds water for 6 months in the year, and is filled from the river by a canal. It is cleared out from year to year when necessary.

Drainage.—There is no system of drainage.

Cess-pools.—None.

Scavengering.—An establishment of 5 sweepers and 1 mukádam is kept up at an annual cost of Rs. 372. The sweepings of the town are carried out to the fields on donkeys. If suitable, they are used as manure; if not, they are burnt. There is no sale for sweepings.

Latrines.—There is one Municipal latrine with 20 seats. It is seldom used, people preferring to go to the jungle. The latrine is kept clean.

Urinals.—None.

Markets.—There is one well-built paved market in the centre of the town, with meat, fish, grain and vegetable shops in it. It is well attended, and is kept clean and neat.

Burial-grounds.—There are three on the north side of the town and one on the south side:—

		A.	g.
1. Survey Nos. 58 and 69		3	31
2. „ 56 and 66		2	36
3. „ 383 and 386		0	37
4. „ 381		0	4
Total ...		7	28

There were 21 burials in the year.

Cremation Grounds.—There is one burning ground on the south side of the town, 2 acres in area. During the year 27 bodies were burnt.

New Works.—The tank banks were sloped; 2 sets of wide pucka brick steps were built into the bank at different ends—one for the use of men and one for women.

Municipality—BHIRIA.

Population	Males ...	1,241
	Females ...	1,300
	Total ...	2,541

	Rs.	a.	p.
Annual Income	2,057	6	4
Expenditure on Conservancy	307	0	0

Water-supply.—There are 7 pucka wells within the Municipal limits, all in constant use. There is one large tank to the west of the town with steps for bathers. The tank fills during the inundation, and is used for bathing, washing clothes and watering cattle.

Drainage.—There is no arrangement for drainage. The rain-fall is so very small, drainage is not required.

Scavengering.—An establishment of 4 sweepers and 1 mukádam is kept up at an outlay of Rs. 307. This is quite sufficient. They keep the town very clean. The sweepings are carried out of the town on to the fields. They are not sold or burnt. There is no sale for sweepings.

Latrines.—There are 2 public latrines, with 4 seats each. They are kept clean by the sweepers.

Markets.—There is one market; but it is in ruins, and unfit for use. It will be thoroughly repaired this year.

Burial-grounds.—There are 3 burial grounds—

1 North ... ... ½ an acre in area.
1 South ... ... ½ an acre in area.
1 East ... ... 30 gunthas in area.

There were 25 burials during the year under report.

Cremation Grounds.—There is one about half a mile off on the north side of the village. Twenty-four bodies were burnt during the year.

New Works.—A canal, which feeds the tank, was bridged during the year at a cost of Rs. 447-14-9.

Municipality—THA'RU SHA'H.

Population	Males	1,100
	Females	1,119
	Total	2,219

	Rs.	a.	p.
Income	1,342	9	3
Expenditure on Conservancy	372	0	0

There are 41 wells in the town, out of which (11) eleven are constantly worked by wheels. The large canal, Naulakhiwáh, runs by the town, and, during the inundation season, is used for drinking, bathing, washing clothes and watering cattle. It has 4 sets of broad pucka-masonry steps and masonry slopes for the use of cattle and horses. The Naulakhi fills a large tank used for the above purposes during the cold season. The tank is cleared from time to time when necessary.

Drainage.—None, and there is no money to carry out a system of drainage.

Cess-pools.—None.

Scavengering.—Two sweepers and one mukádam are employed all the year at an outlay of Rs. 372. They clean the town and public and private latrines. The sweepings are carried out and used for manure or burnt.

Latrines.—There are 2 in the town with 20 seats, seldom used, but kept clean.

Urinals.—None.

Markets.—There is a market, built on the plan of all the Municipal markets, in the Naushahro Division, viz., a long centre hall with side verandas, covered in by arched roofs, with raised plinths for stall holders, and paved with burnt brick. Fish, meat, vegetables and fruit are sold there. It is kept clean by the occupants and the Municipal sweepers.

Burying Grounds.—There are 3 burial-grounds—

North	1 area, 10 gunthas.
South	1 area, 1 acre.
West	1 area, 0½ acre.

There were 25 burials within the year.

Burning Ground.—There is one on the west side of the town, half a mile off—area 4 acres. Twenty-eight bodies were burnt during the year under report.

General Remarks.—There is a Dispensary and Hospital in this town. The Municipality pays Rs. 144 annually towards the maintenance of the establishment. The Dispensary is well attended, and is a blessing to the people within a radius of 10 miles. The Hospital Assistant sees that the town is kept clean and healthy, and vaccinates children.

New Works.—None.

Municipality—MORO.

Population	Males	960
	Females	1,042
	Total	2,002

	Rs.	a.	p.
Annual Income	973	10	4
Expenditure on Conservancy	259	6	9

Water-supply.—There are 9 wells in the town. Four constantly in work for cultivation and drinking purposes. Five are used for drinking purposes only.

The 9 wells are clean and in good repair. Cattle are watered at troughs built within 8 feet of each well. There are 3 tanks—1 on the north, 1 on the south and 1 on the east side of the town. The former 2 are simply holes, from which clay for building purposes has been dug. These fill during the inundation from the Dad Canal, and are used for washing and for watering cattle. The one to the east was excavated some years ago by the Local Fund Committee, aided by a small grant from the Municipality. It is used, when full, for bathing and watering cattle. It is cleaned out from time to time when necessary.

Drainage.—The village is built on a mound about 20 feet above the level of the country. The streets are on an incline. When rain does fall, which is rare, it flows off the streets in a couple of hours. No drainage arrangements exist.

Cess-pools.—None.

Scavengering.—There is an establishment of 4 sweepers and 1 mukádam kept up. They take the sweepings outside the town to one of the many pits with which it is surrounded, where they are burned. There is no sale for sweepings.

Latrines.—There are 3 public latrines. They are but little used. The people prefer the jungle. The latrines are kept clean.

Urinals.—None.

Markets.—There is one market, which is little used. I find fish and meat are sold in the open street. In future the vendors will be required to make use of the market. It is not paved. It is kept clean, and fit for use.

Burial-grounds.—There are 3 grave-yards—2 on the north and 1 on the west side, containing 5 acres, 4 acres and 11 acres respectively. There were 14 burials during the year.

Cremation Grounds.—There is a plot of about 2 acres on the north side of the town set apart for cremation purposes; 8 bodies were burnt during the year.

New Works.—None. The income of the Municipality is so small that there are only scanty funds to pay for collection, conservancy and police. There is nothing to spare for new works.

Municipality—SHAHDA'DPUR.

Enumerated Population	Males ...	1,274
	Females ...	958
	Total ...	2,232

	Rs.	a.	p.
Annual Income	3,598	6	3
Expenditure on Conservancy	521	1	7

Water-supply.—There are 2 tanks which receive water from the Rájwáh and Dhinganowáh. In these bathing, clothes-washing and cattle-watering are permitted. The tanks are repaired at the Municipal expense when necessary. There are 2 public wells. The supply never fails, and the quality is good. The wells were cleared out before the last rains. There are also 3 private wells.

Drainage.—None.

Cess-pools.—None.

Scavengering.—There are 1 mukádam and 6 sweepers. The sweepings are taken to the north and south of the town, where they are burnt.

Latrines.—There are 3 public latrines. One has 10 seats, and the other two have 40 seats.

Urinals.—None.

Markets.—There is no market for beef. Mutton, fish and vegetables are sold in the bázár.

Burial-grounds.—There are 4 burial-grounds—2 in the south of the town, 1 in the east and 1 in the west of the town. One of these is of 1 acre, the other is of 2 acres, and the remaining 2 of 1½ acres each. There were 50 burials during the year.

Cremation Ghâts.—There is one cremation ghât. There were 24 bodies burnt during the year.

New Works.—No new work was carried out during the year.

Municipality—NASARPUR.

Enumerated Population	Males ...	1,578
	Females ...	1,528
	Total ...	3,106

	Rs.	a.	p.
Annual Income	1,479	7	6
Expenditure on Conservancy	496	4	7

Water-supply.—There is no tank in the Municipal town of Nasarpur. There is a hollow which receives water from the Sujáwal Canal. In this hollow, bathing, clothes-washing and cattle-watering are permitted. There are 4 public wells. The supply never fails, and the quality is good. These wells were cleaned out after the last rains. There are also 5 private wells.

Drainage.—None.

Cess-pools.—None.

Scavengering.—There are 8 sweepers. The sweepings are taken to the east of the town, where they are burnt.

Latrines.—There are no public latrines. There are 200 private privies served by private as well as Municipal sweepers.

Urinals.—None.

Markets.—There is no market for beef, mutton, fish and vegetable. Mutton, fish and vegetables are sold in an open space near the town.

Burial-grounds.—There are 3 burial-grounds to the north of the town, each of 3 acres. There were 42 burials during the year. Besides there are 8 special private burial-grounds in the town of Nasarpur.

Cremation Grounds.—There is one cremation ghât in the south of the town.—There were 12 bodies burnt during the year.

New Works.—No new work was carried out during the year.

Municipality—TANDO ALAHYAR.

Enumerated Population	Males ...	2,402
	Females...	1,511
	Total ...	3,913

	Rs.	a.	p.
Annual Income	6,947	1	11
Expenditure on Conservancy	1,101	3	4

Water-supply.—There are 2 tanks—1 with steps and 1 without steps. Both of them receive water from the Gháro Canal. In the first tank, bathing, clothes-washing and cattle-watering are permitted. The other tank is specially reserved for drinking purposes. The tanks are in fair order, and were last cleaned a year ago.

In addition to the tanks there are 8 public wells. They are well built. The supply never fails, and the quality is good; all were cleaned out after the last rains. There are also 11 private wells.

Drainage.—None.

Cess-pools.—None.

Scavengering.—There are 1 mukádam and 14 sweepers. The sweepings are taken to the north-east of the town, where they are burnt.

Latrines.—There are 4 public latrines; each has 40 seats. There are 400 private privies, served by private sweepers.

Urinals.—None.

Markets.—There are no sheds for beef. There is a market for mutton, fish and vegetables.

Burial-grounds.—There are 2 burial-grounds to the north-east of the town, each of which is 2 acres. There were 38 burials during the year.

Cremation Ghâts.—There is 1 cremation ghát to the west of the town. There were 31 bodies burnt during the year.

New Works.—No new work was carried out during the year.

Municipality—TANDO JAM.

Enumerated Population	Males ...	1,180
	Females...	1,043
	Total ...	2,223

	Rs.	a.	p.
Annual Income	820	5	1
Expenditure on Conservancy	238	8	5

Water-supply.—The principal source of supply is the Jamwáh and wells. People use the canal water throughout the inundation season. After the subsidence of the water, they draw their supply from the wells. There are, besides, 3 hollows which are supplied with water from the Jamwáh during the inundation season; of these 2 are solely used for purpose of bathing and clothes-washing, and the third for cattle-watering and washing. There are no bathing steps. There are 8 private wells. The supply seldom fails, and the quality is good. Two of these have water troughs for cattle-watering.

Drainage.—There are no regular drains.

Cess-pools.—None.

Scavengering.—The establishment consists of 1 mukádam and 4 sweepers. The sweepings are taken to the leeward of the town, and burnt at times. Much of it is, however, used by agriculturists as manure.

Latrines.—There are no Municipal latrines, but about 200 private privies, which are cleaned by private sweepers.

Urinals.—None.

Markets.—None.

Burial-grounds.—Two—one to the north and the other to the west of the town, each measuring about 2 gunthas. There were 30 burials during the year.

Cremation Ghâts.—One, measuring 1 guntha, to the east of the town, at a distance of 1 mile; 42 bodies were burnt during the year.

New Works.—None.

Municipality—HA'LA.

Enumerated Population	Males ...	2,250
	Females ...	1,846
	Total ...	4,096

	Rs.	a.	p.
Annual Income	3,103	3	6
Expenditure on Conservancy	570	0	0

Water-supply.—There is only one tank in the Municipal Town of Hála, and which receives water from Ali Gang Canal. In this tank bathing and clothes-washing are permitted. The tank is in fair order, and was last cleaned out 6 years ago.

In addition to the tank there are 3 public wells, for the construction of one of these half the costs were paid by the Municipality, and half by subscription. The supply never fails, and the quality is good. There are also 9 private pucka wells and 11 kutcha wells.

Drainage.—None.

Cess-pools.—None.

Scavengering.—There are 10 sweepers. The sweepings are taken to the east of the town, where they are burnt.

Latrines.—There are 5 public latrines; 4 of these are without seats, and in the remaining one there are 50 seats. There are 496 private privies, which are served by private sweepers.

Urinals.—None.

Markets.—There are no sheds for beef. There is a market for mutton, fish and vegetables, with paved floor, and it is well looked after.

Burial-grounds.—There are 2 burial-grounds—1 of 4 acres near the town, and the other of 1 acre to the east of the town. There were 26 burials during the year.

Cremation Ghâts.—There is 1 cremation ghát for the town. There were 13 bodies burnt during the year.

New Works.—One fish market and one market for grass and wood were constructed during the year.

Municipality—MATA'RI.

Enumerated Population	Males ...	2,606
	Females ...	2,314
	Total ...	4,920

	Rs.	a.	p.
Annual Income	4,088	1	6
Expenditure on Conservancy	648	0	0

Water-supply.—There are 2 tanks in the Matári Municipal town, one of which is specially reserved for drinking and domestic purposes. In the other tank, bathing and clothes-washing are allowed.

The first tank receives water from Sháh Murád Canal, and the last from a water-course owned by the Matári Municipality. The 2 tanks are in fair order; one of these, used for drinking purposes, was cleaned out 9 years ago, and the other has not been cleared for many years.

There is only one public well, which is well built. The supply sometimes fails, as almost all the townspeople fetch water from it owing to the water in private wells being generally brackish. There are also 3 private wells, the water of one of which is only sweet. In addition to these, there are 14 kutcha wells, 9 of which are private and 5 Municipal.

Drainage.—None.

Cess-pools.—None.

Scavengering.—There are 10 sweepers. The sweepings are taken to the north of the town, where they are burnt.

Latrines.—There are 5 public latrines without seats. There are also 400 private privies served by private sweepers.

Urinals.—None.

Markets.—There is no market for beef. Beef is, however, sold in an open space to the east of the town, and the place is kept clean. There are 2 markets for mutton, fish and vegetables.

Burial-grounds.—There are 4 burial-grounds, each of which is 3 acres in area. One hundred and seventy-six bodies were buried during the year.

Cremation Ghâts.—There is no cremation ghât for the town. Bodies are burnt on the bank of the Indus, 3 miles distant from the town. There were 31 bodies burnt during the year.

New Works.—No new work was carried out during the year.

Municipality—Tando Muhammad Kha'n.

Enumerated Population	Males ...	1,882
	Females...	1,530
	Total ...	3,412

	Rs.	a.	p.
Annual Income	5,911	11	3
Expenditure on Conservancy	958	6	2

Water-supply.—The principal source of supply is the Guni Canal, known higher up as the Fuleli Canal or River. During the inundation season, or from May to October, the whole population use the water of this canal, which is that of the River Indus, and, when filtered or allowed to settle, is very good. When the supply fails, and the water becomes impure owing to the subsidence of the River Indus, the inhabitants use well water.

There are in all 6 built "ghâts" on the Guni at the town.

There are 17 wells in the town.

The property of the Municipality, a fairly good well, situated in a good position in the open.

Sixteen private wells, the greater number of which are badly situated, and until lately were not kept clean.

In consideration of their public utility, the Municipality provides funds for cleaning them.

Drainage.—There are 4 drains for the purpose of carrying off rain water. There is no regular system of drainage in the town.

Cess-pools.—The refuse of all kinds is removed from the town and buried in one of the "hollows," from which the material for building the town was originally taken.

Scavengering.—There is 1 mukádam and 12 sweepers, 11 asses and 1 bullock. The sweepings are removed on the backs of the above-mentioned animals and thrown into the "hollows." The system of manufacturing "poudrette" from night-soil has not yet been introduced; but it is hoped will be in time.

Latrines.—There are 2 public latrines—one for males; one for females—each containing 4 seats. They are badly built and badly situated. New ones are about to be built; a plan has been prepared, and on the receipt of the estimates the work will be taken in hand.

Urinals.—None.

Markets.—There is a good market built by the Municipality, which contains 23 shops. The market is built on a slight plinth, and is a useful and commodious building.

Burial-grounds.—There are 2 burying grounds—one to the south; the other to the west. There were 55 burials during the year.

Cremation Ghâts.—There is one to the south-east, half a mile from the town; 33 bodies were burnt during the year

New Works.—The new roof to the bázár was nearly completed.

Municipality—TANDO ADAM.

Enumerated Population	Males ...	1,850
	Females...	1,607
	Total ...	3,457

	Rs.	a.	p.
Annual Income	9,396	14	7
Expenditure on Conservancy	640	2	5

Water-supply.—There is one tank with steps to the west of the town. It receives water from Hingoran Dhand. In it bathing, clothes-washing and cattle-watering are permitted. The tank was cleaned out a year ago.

In addition to the tank there is 1 public well. It is well built. The supply never fails, and the quality is good. There are 9 private wells.

Drainage.—There are 2 drains—one of masonry in the south of the town, and the other of kutcha bricks to the north of the town.

Cess-pools.—None.

Scavengering.—There are 1 mukádam and 9 sweepers. The sweepings are taken to the north-east of the town, 400 feet distant, where they are burnt.

Latrines.—There are 4 public latrines; each has 5 seats. There are 350 private privies, served by private sweepers.

Urinals.—None.

Markets.—None.

Burial-grounds.—There is one burial-ground to the west of the town. It is of 5 acres. Thirty bodies were buried during the year.

Cremation Ghâts.—There is one cremation ghát to the east of the town. Thirty-two bodies were burnt during the year.

New Works.—No new work was carried out during the year.

Municipality—CITY OF HYDERABAD—SIND.

Enumerated Population	Males ...	23,832
	Females...	22,397
	Total ...	46,229

	Rs.	a.	p.
Annual Income	1,09,919	6	1
Expenditure on Conservancy	10,783	12	7

Water-supply.—There are two reservoirs at Tando Gidu, into which the water from the River Indus is pumped alternately to settle and deposit its silt, from thence it is brought by gravitation through a brick-work conduit to, 1*st*, a small tunnelled reservoir supplied by a branch from the main conduit, whence the supply is pumped for the Cantonment service reservoir; 2*nd*, the conduit continues up to a large reservoir near the Fort, whence the supply is pumped up to the city reservoir; the city supply is, by gravitation, from this reservoir.

The Cantonment has the following services :—

Officers' Line	9	Stand-pipes.
Collector's Kacheri	1	Do.
Travellers' Bungalow	1	Do.
General Hospital	1	Do.
Rural Police Lines	1	Do.
Mounted Police Lines	1	Do.
In Barracks	27	single services
Sadar Bázár	1	1st class 16-cock service.

One ball-cock supplying bhistis' cistern, Sadar Bázár.

Forty thousand gallons per week for the Military plunge-bath.

These works were opened on 28th May 1878.

The Fort Reservoir supplies the city by gravitation through the following services :—

1st Class Bullock services—
- 1 at Fort Gate.
- 1 at Wái Kheyri Musjid.

2nd Class Bullock services—
- 1 Rear of Civil Hospital.
- 1 New Fish Market.

1st Class Hand services, 16 cocks—
- 1 at Fort Gate.
- 1 at Wái Kheyri Musjid.
- 1 at Vegetable Market.
- 1 at Fish Market.

2nd Class Hand services, 8 cocks—
- 1 at Pirr Juman Sháh.
- 1 at Sathian's Paro.
- 1 at Pirr Lutifalli Sháh.
- 1 at Sira Police Guard.
- 1 at Pirr Nahayan.
- 1 at Old Fish Market.
- 1 at Amir Sháh Street.
- 1 at Giranan-jo-Pirr.
- 1 at Pirr Hajaman-jo.
- 1 at Sangaliar Lane.
- 1 at Sochin's Bázár (Chackla).

3rd Class Hand services, 4 cocks—
- 1 at Duhimari Lane.
- 1 at Pirr Ganj-baksh.
- 1 at Manghirmalain Lane.
- 1 at Chandiramani Street.
- 1 at Mansukhain Lane.
- 1 at Vesaram Street.
- 1 at Bablani Street.
- 1 at Pirr Panal Sháh.
- 1 at Juramal's Street.

Stand-pipes or single cock services—
- 1 at Pirr Sirhind's Street.
- 1 at Dharmshála quadrangle.
- 1 at Civil Hospital.
- 1 at the Fort (inside).

Private Service.

Mr. Pritamdas in Bhagserian Lane.

To the east of the city there are 3 tanks—1 reserved for drinking purposes, 1 for bathing and 1 for washing clothes.

They are supplied during the annual inundation ; but the water ceases to be fit for use after the month of October.

There are 10 wells in the city and kutcha quarters, the water of which is used for cooking and bathing purposes, and in only 3 of them for drinking.

In the Cantonment there are 4 wells.

Since the water works were opened none of these wells have been used to supply drinking water.

Drainage.—The city is drained entirely by surface drainage, the waste water from the water works services being carried in shallow stone channels down the streets leading towards the east of the city.

Scavengering.—The following is the list of the Conservancy Establishment :—

- 1 Inspector of Nuisances.
- 1 Sub-Inspector of Nuisances.
- 1 Inspector of Markets.
- 4 Mukádams.
- 5 Sweepers to Public latrines.
- 3 Do. to filth pits.
- 24 Sweepers to clear sweepings away.
- 14 Carts with bullocks for conveyance of filth and sweepings.
- 1 Woman sweeper for bathing ghâts.

The Municipality have undertaken to do the whole scavenging and cleaning of the town, including private latrines, and are now awaiting the sanction of the Commissioner in Sind to entertain the additional establishment which will be necessary.

Latrines.—There are 12 public latrines containing from 10 to 20 seats in each. The establishment for cleansing these are—

- 25 Sweepers with donkeys.
- 4 Iron carts for night-soil.

Earthen-ware pans are used. There are 5,466 private latrines in the city, which are cleared by private agency for the present, until the arrangements pending for cleaning by Municipal agency are completed.

Filth Pits.—One set of filth pits is situated to the south-east of the city, distant one mile, and the other set is to the north east, and distant about half a mile. Arrangements for the manufacture of poudrette are in progress.

Urinals.—None.

Markets.—There are markets for the sale of beef, mutton, fish and vegetables. They are constructed on good plinths, and have their floors paved. The roofs are about to undergo reconstruction.

Burial-grounds.—The Mahomedan cemetery is situated to the east of the city, and nearly 1 mile distant. There were 648 bodies buried during the year.

Cremation Ghâts.—One to the north-east of the city, half a mile distant. There were 299 bodies burnt during the year.

New Works.—No new works were undertaken during the year—only repairs to existing latrines and drains.

C. J. BOULTON,
Collector of Hyderabad—Sind.

THAR AND PA'RKAR.

Municipality—UMARKOT.

Enumerated Population	Males ...	2,329
	Females ...	1,670
	Total ...	3,999

	Rs.	a.	p.
Annual Income	7,111	14	7
Expenditure on Conservancy	782	7	2

Water-supply.—There is a large tank fed from the tail of the Umarkot Canal and lying immediately under the town and to the north of it. It is supplied with a well-constructed bathing ghát. In a normal season and in the absence of floods the tank runs almost dry before the fresh water comes into the canals. The water of the tank is not used for drinking purposes; cattle-watering, bathing and clothes-washing are permitted. There are also two other tanks close to the above, and which are supplied from the tail of the Umarkot Canal, and used only for watering and washing cattle, bathing, &c.

There are 4 public wells. These are well built, and 3 have parapets and platforms. A fourth has a platform, and the construction of a parapet for it is to be commenced. The supply of water in these wells is sufficient and good. There are also 16 private wells. They are all in fair order, and the supply never fails.

Drainage.—There are no masonry drains in the main streets. In the side streets there are mere cuttings.

Cess-pools.—None.

Scavengering.—There are 1 mukádam and 6 scavengers; the night-soil and the sweepings are taken on donkeys to a distance of 1½ miles to the north-east of the town; the former buried in trenches, and the latter burnt in hollows to leeward of the place. The ashes are not mixed with night-soil, as it was ascertained last year that the people will not use poudrette as a manure.

Latrines.—There are 6 public latrines on the dry-earth system—4 have 17 seats each and 2 have 16 each. There are 30 private privies, served by the above-mentioned Municipal sweepers. Earthen receptacles are used.

Urinals.—None.

Markets.—There are 5 sheds only for the sale of vegetables and miscellaneous wares. These sheds have good plinths and paved floors, and are well taken care of.

Burial-grounds.—There are 2 burial-grounds at a distance of 1½ miles from the town; the one to the south covers an area of 2½ acres, and the other to the west is of 1 acre. There were 20 burials during the year.

Cremation Ghâts.—There is one burning ground to the east of the town at a distance of 1½ miles, and covering 5 acres. There were 57 bodies burnt during the year.

New Works.—None.

In consequence of a succession of abnormal floods, the town of Umarkot has fallen off in population and trade, while Municipal property of much value has been destroyed, and the Municipal income has been, at the same time, greatly reduced; wherefore it has only been found practicable to carry out urgent repairs for existing works in the year under report.

Municipality.—MITTI.

Enumerated Population	Males ...	1,407
	Females ...	1,173
	Total ...	2,580

	Rs.	a.	p.
Annual Income	2,599	5	6
Expenditure on Conservancy	317	0	6

Water-supply.—There is one tank with steps, situated below the town and to the south of it. It fills with rain water, which is used for drinking and domestic purposes, and in it bathing, clothes-washing, and cattle-watering are prohibited. It is in good order. When the rain water fails, the people draw their supply from the wells described below.

There are also two other tanks without steps. In these also rain water accumulates. The water is not used for drinking purposes, but for watering cattle, bathing, and clothes-washing.

There is one public well with a parapet, platform and trough. It is well built. The water is used for drinking purposes when the tank above-mentioned gets dry. The trough is at a distance of 50 feet from the well, and is used for cattle-watering, and in seasons when the water in the two tanks fails, bathing and clothes-washing are allowed here; but they are performed at a distance of 10 feet from the trough.

The water in the well is good and sufficient. There are also 15 private wells. They are all in good condition, and the supply of water in them never fails.

Drainage.—There are no masonry drains in the main streets. In the side streets there are mere cuttings.

Cess-pools.—None.

Scavengering.—There are 4 sweepers. The night-soil and the sweepings are carried on donkeys to a distance of one mile to the west of the town; the former buried in pits, and the latter burnt in hollows to windward of the place. The ashes are not mixed with night-soil for the reasons given in the Umarkot Return.

Latrines.—There are 3 public latrines on the dry-earth system; 2 have 14 seats each, and 1 has 12 seats. There are 7 other privies attached to Government buildings, served by the above-mentioned scavengers. Earthen receptacles are used.

Urinals.—None.

Markets.—None.

Burial-grounds.—There is one burial-ground at a distance of 1 mile to the south. It covers an area of 9 acres. There were 17 burials during the year.

Cremation Ghâts.—There is one burning ground to the east of the town, at a distance of half a mile. It comprises 5 acres. Ten corpses were burnt during the year.

New Works.—None.

The town of Mitti is situated in the Thar or desert, in which there are no canals or rivers, and very little rain-fall. The soil being dry and sandy, little or nothing is required in the way of drainage; a good supply of water and cleanliness are the chief desiderata, and these are amply provided and attended to. The tank reserved for drinking and domestic purposes is about to be considerably deepened.

Municipality—NAGAR.

Enumerated Population	Males ...	1,408
	Females ...	1,017
	Total ...	2,425

	Rs.	a.	p.
Annual Income	4,235	10	1
Expenditure on Conservancy	303	12	4

Water-supply.—There are two tanks—one above the town to the west, and the other below it to the north. The one to the north has been out of order for the last 10 years; the other fills with rain water, which is used for watering cattle, washing clothes and bathing.

There are also 7 public wells with sloping platforms only; 5 wells have troughs for watering cattle. The wells are well built. The water of 6 wells is used for drinking and domestic purposes; that of the 7th well is used for washing purposes.

The water of one of these wells runs dry during the hot season, while in the rest it never fails. There are 2 private wells. These are in good order.

Drainage.—There are no masonry drains in the main streets. In the side streets there are mere cuttings.

Cess-pools.—None.

Scavengering.—There are 3 scavengers. The night-soil and sweepings are carried on donkeys to a distance of half a mile to the west of the town; the former buried in pits, and the latter burnt in hollows to leeward of the place. The ashes are not mixed with night-soil.

Latrines.—There are 2 public latrines on the dry-earth system—each latrine has 50 seats. There are 9 private privies served by the above-mentioned sweepers. Earthen receptacles are used.

Urinals.—None.

Markets.—None.

Burial-grounds.—There are 2 burial-grounds, one is situated at a distance of 50 yards from the town, covering an area of half acre, and the other at a distance of 1,000 yards, and comprises an area of 10 acres. Both are situated to the west of the town. There were 11 burials during the year.

Cremation Ghâts.—There are 2 burning grounds to the east of the town, at a distance of 200 yards. They cover an area of 2½ acres. Fourteen corpses were burnt during the year.

New Works.—None.

This town is situated to the south-east of the desert, and although the soil and appearance of this part of the country are entirely different from the desert portion proper, the climate is very much the same, and the sanitary arrange-

ments required are as simple as in other parts of the District, viz., to keep the town clean and to supply the people with good water, and a sufficient quantity of it. The rain-fall is heavier in Nagar Párkar than in other parts of the District, but not so much so as to call for drainage works of any kind beyond the "cuttings" described above.

R. I. CRAWFORD, Major,
Political Superintendent, Thar and Párkar.

SHIKA'RPUR.

Municipality—SHIKÁRPUR.

Enumerated Population	Males ...	19,254
	Females...	18,853
	Total ...	38,107

	Rs.	a.	p.
Annual Income	77,606	11	3
Expenditure on Conservancy	46,129	14	6

Water-supply.—There are in the city and suburbs of this district 164 wells, of which number 66 are kept for drinking purposes, and are under Municipal control; the expense for gear and pots and all repairs are borne from the funds. The other wells, situated in the gardens and open spaces, are used for bathing, as also the Hogari and the Gillespie Tanks when filled during the inundation. The washing of clothes is done at small pools around the city and on the Begári and Sind Canals when in flood. The water-supply is good and abundant, and the state of the wells are in very fair order.

Drainage.—There is no drainage of any sort in Shikárpur, that is to say, there is neither open nor covered channels for the conveyance of refuse water, nor sewers to carry away night-soil; but during rain-fall the streets are the channels through which the rain water flows to the hollows surrounding the city and to the Fulton Hogari and Gillespie Tanks. The refuse water and drippings from wells are disposed of partly by watering the streets, where it is absorbed and evaporated, and partly conveyed by donkey-carts and emptied on the open space outside the city. The hollows that exist round the city have been regularly filled up, with the view to permit the water being infiltrated to percolation level and to prevent evaporations, as the water running into them during rain from the city becomes impregnated with ammonia and ordure, the latrines of the people being on the tops of their houses and uncovered. These fillings annually done has been the means of much good, the mortality being much reduced.

The Commissioner in Sind has proposed that a tank be excavated at some distance outside the city, to which all drainage will be drawn through an open channel. In the projection of this scheme it was proposed by our Engineer and Secretary to connect the dripping tanks of all the wells with this channel, thereby improving their condition by preventing the refuse water from permeating back into them; the scheme has been kept in abeyance till the funds will admit of a correct survey and levels.

Cess-pools.—There are more than a hundred cess-pools of brick masonry and solid stone troughs, the contents from which are carried away and emptied outside the city.

Scavengering.—For scavengering and latrines there are 4 mukádams and 51 sweepers, and the services of an inspector has been sanctioned. There are no dust-bins. The sweepings are carried to the hollows, and, after being burnt, the ashes are levelled off for the purpose shown under Drainage.

Latrines.—There are 23 latrines on the dry-earth system, the clearing of private closets being done by private labour. The excreta is carried away and deposited in trenches to the north-west of the city, and is immediately covered over so soon as deposited.

Markets.—There are 3 markets, in which mutton, fish and fruit and vegetables are separately sold. They are in good order, and have paved floors.

Births.—There were 1,120 births registered during the year.

Deaths.—The mortality of Shikárpur has been small, being but 20·75 per mille. The city has been free from epidemics, with the exception of 9 cases of small-pox. Though cholera prevailed throughout the collectorate, not a single case occurred within this district. During its prevalence every precaution was taken to destroy bad and unripe food and fruit, and quarantine was established for a few hours daily, and no one permitted to enter the city without being examined by the Medical Officer. Temporary hospitals were erected in case of any attacks, and the exertions made by the President and officials, as also by the Native gentry, enforcing cleanliness in person and houses and preventing large gatherings at bathing ghâts and festivals, and chiefly by the tender mercies of God, the malady was prevented from visiting us.

Burial-grounds.—There are 3 in use—1 for Christians and 2 for Mahomedans. The Christian cemetery is in area about 2 acres, and the 2 Mahomedans about 20 acres each. During the year there were 383 burials.

Cremation Ghâts—The cremation ghât lies to the north of the city, and 464 bodies were burnt during the year.

New Works.—The main bázár has been paved throughout 2,600 feet, as also the passages leading to the Havelis.

Repairs.—The roof of the covered way has been strengthened and repaired. All Municipal buildings have been put into proper repair, and the roads are all in order.

Chairman, Shikárpur Municipal Commission.

Municipality—SUKKUR.

Enumerated Population	Males ...	8,294	
	Females ...	5,024	
	Total ...	13,318	

	Rs.	a.	p.
Annual Income	...1,23,707	14	1
Expenditure on Conservancy	... 11,760	15	3

Water-supply.—Sukkur being so close to the River Indus, the inhabitants have a never-failing supply of fresh water at their doors; they have also 23 public wells and a tank from which they can always draw filtered water. The wells are all provided with either stone platform tops or parapet walls and the spill water carefully drained off. The tank is filled from the river once every year, and is always fresh; both tanks and wells are periodically cleared out, and always maintained in good order by the Municipality.

Drainage.—The town is provided with an underground drainage system leading to a tank, from which the water is lifted by means of a centrifugal pump and steam engine; there being no sewage or waste water to provide for, the underground drains are only useful when heavy rain falls, which only happens once in two or three years, owing to the presence of spring water in the outfall tank and defective construction. These drains are not found to work well, and the town has sometimes remained water logged for two or three days after a heavy fall of rain. During the year under report a pumping well has been built on the river bank and the town drainage partly diverted into it; by this arrangement the pump will lift the rain water directly from the drains and discharge it into the river instead of having to lift a large proportion of spring water at the tank as hitherto; no opportunity of testing this new arrangement has yet occurred; the drains are cleared out every year.

Cess-pools.—None are allowed within the town.

Scavengering.—The following establishment is maintained for scavengering:—

1 European Inspector.	2 Peons.
1 Haváldár.	47 Sweepers.
2 Náiks.	8 Carts.
2 Mukádams.	4 Night-soil carts.

All collections are carted to a depôt about 2 miles from the town, where the sweepings and night-soil are made into poudrette and sold to cultivators.

Latrines.—There are 21 public latrines; 8 of them substantial masonry buildings, provided with zinc receptacles, well drained and ventilated; the other 13 are enclosures on the dry-earth system; all are provided with a sufficient staff of sweepers, and cleaned out twice a day; besides the above Municipal latrines there are several others attached to the Railway stations, which are worked through Municipal agency and paid for by the Railway.

Urinals.—None.

Markets.—The chief market is a large stone building, fitted up with stalls for the sale of mutton, fish, fruit and vegetables, on the plan of the Crawford Market, Bombay. The stalls and floor are regularly washed out every day, and every thing else kept perfectly clean; the same rules are observed in the small beef market built during the year; the other markets for the sale of grass and firewood are open spaces, and call for no remark here.

Burial-grounds.—Several old grave-yards exist within the town, but their use has been almost stopped by the Municipality. For Mahomedans is now provided a large enclosed space outside the Municipal boundaries and about 2 miles from the town; for old Sukkur a similar place, on a smaller scale, has been provided; the Christian burying ground is within the town; Pársis have also an enclosure within the town; but as neither are used to a great extent, and are carefully looked after, no objection can be made to them. Private burying grounds have been interdicted, with one or two exceptions, at old Sukkur. There were 225 burials during the year.

Cremation Ghâts.—There are 2 burning places: the one for old Sukkur is about 1½ miles to the north of the town, and for new Sukkur there is a place enclosed by mud walls near the river bank, about 1 mile to the west of the town; 183 bodies were burnt during the year.

New Works.—A beef market, several new surface drains, pumping well and discharge channels, new Mahomedan burying ground, 1 dust-bin, filling in hollows in various parts of the town near streets and roads.

Concluding Remarks.—There being no sewage in Sukkur, and as filth collects in the underground drains, efforts are being made to establish an efficient system of surface drainage for rain water.

Private latrines on the tops of houses can now (since the introduction of the Municipal Act) be more closely supervised; filth, as a rule, is not allowed to accumulate on the house tops, and the intense heat of the sun makes the practice here very much less objectionable than it would be in a less dry climate.

Deputy Collector, and Vice-President, Sukkur Municipality.

Municipality—GARHI YA'SIN.

Enumerated Population	Males ...	2,560
	Females ...	2,248
	Total ...	4,808

	Rs.	a.	p.
Annual Income	8,202	3	9
Expenditure on Conservancy	1,162	5	10

Water-supply.—There are 8 public wells pucka built. The supply and the quality is good. These wells are maintained at the expense of the Municipality. There are also 8 private wells. There are also 5 troughs and a small tank for watering cattle.

Drains.—There are no drains in the town.

Cess-pools.—None.

Scavengering.—The following establishment is maintained for scavengering:—

1 Mukádam.
8 Sweepers.
2 Carts.

The sweepings are taken to a place on the south-west of the town, at about quarter of a mile distant, where they are burnt.

Latrines.—There are 2 public latrines on the dry-earth system—each has 4 seats. There are 440 private privies served by the Municipal sweepers, and a monthly fee is levied on town-people who have occasion to use their services. A munshi is employed who collects the fees. There are 2 donkeys for carrying away the night-soil, which is burnt in a pit about 2 miles distant from the town. Iron receptacles are not used.

Urinals.—None.

Markets.—There is no regular market for the sale of meat, &c. Vegetables, fish, meat, &c., are sold in the bázár. The building of a market is under contemplation.

Burial-grounds.—There are 6 burial-grounds; 2 on the west of the town; 1 of 6 acres and the other of 5 acres.

One on the north-east of the town, about 5 acres in area.

There are also 2 other grave-yards, but the interments in them have been now discontinued.

There is a burial-ground for Hindu children situated on the east of the town, and is about 10 waisás in area.

There were 26 burials during the year.

Cremation Ghâts.—There is one on the east of the town. There were 23 bodies burnt during the year.

New Works.—No new works were carried out during the year under report.

J. R. PRICE,
Deputy Collector, and Vice-President,
Garhi Yásin Municipality.

Municipality—LA'RKHA'NA.

Population	Males ...	5,819	
	Females ...	4,824	
	Total ...	10,643	

	Rs.	a.	p.
Income	22,476	12	5
Expenditure on Conservancy	2,205	2	11

Water-supply.—There are in all 17 wells for drinking, out of which 1 draw-well and 16 wells with nar (wheels); 7 wells have sheds over them; north of the town the Ghár Canal flows; there is 1 tank east of the town and 2 to the west for bathing; another tank, south of the town, is for watering cattle; a place on the Ghár is fixed for washing clothes, east of the town.

There are 7 bathing places (steps) on the Gharwáh, 5 opposite the town of Lárkhána and 2 at Lahori village; besides these there are 4 flights of steps on

tanks—in all 11 flights of steps; out of these 4 are walled in. The Ghar flows near the town; the 3 tanks have never been cleared since they were dug, as water remains in them all the year round; washing clothes is allowed in the tank situated in the Eden garden. Out of 17 wells 7 have reservoirs of brick and lime masonry; the water is taken out from them daily; the wells and reservoirs are repaired annually. The supply never fails, and the quantity is good; the wells were cleared in the year 1876.

Drainage.—West of the town, by the Frere Road, there is a covered drain of masonry, and an open kutcha náli (small drain) to the north-east, near the Dispensary, for carrying off rain water.

Cess-pools.—There are 7 cess-pools; they are cleaned daily by 5 bhistis entertained by the Municipality.

Scavengering.—There are 1 mukádam, 15 scavengers and 20 donkeys for taking away street sweepings, and 4 donkey-carts for carrying away the filthy water.

The sweepings are taken to a depôt east of the town, 1,800 feet distant; in future they will be burnt and ashes mixed with night-soil.

Latrines.—There are 4 public latrines, in which sand is daily spread; there are 2 sweepers with 2 iron night-soil carts; the private privies are served by 16 Municipal sweepers with 2 iron night-soil carts; the night-soil is removed to the south-east of the town, at a distance of one mile, put in ditches and covered over with earth; after it becomes dry, it is used for cultivation in the neighbourhood of the town. Rs. 153 was realized from it in 1879-80.

Urinals.—None.

Markets.—There are separate shops for selling fish and vegetables; meat is sold in open space in the market; all are well looked after; a new market is being built.

Burial-grounds.—One south of the town and 1 west of the Lahori village—each at a distance of one mile. There were 88 burials during the year.

Cremation Ghâts.—One south of the town, at a distance of ¼ mile; 70 bodies were burnt during the year.

New Works.—Sheds over wells and reservoirs at a cost of Rs. 564. Walls to bathing ghâts at a cost of Rs. 163-10-0.

Deputy Collector, and Vice-President, Municipality, Lárkhána.

Municipality—KAMBAR.

Population	Males ...	2,034	
	Females ...	1,484	
	Total ...	3,518	
		Rs.	a. p.
Income		8,016	12 5
Expenditure on Conservancy		515	7 9

Water-supply.—There are 5 public wells with nars (wheels) for drinking, of which 3 are covered over; besides these there are 4 private wells; all the wells, except 2 private ones, have each a cistern of brick and lime attached to it; the wells are repaired annually; the water-supply in all the wells, except 2 private ones, never fails, and the quality is good; the wells were cleared in 1876.

There are 2 tanks, one to the east and the other to the north of the town, each with steps, for the purpose of bathing; the large one was cleared in 1869-70; in it water remains throughout the year; washing clothes and watering cattle are permitted in 2 hollows, situated one west of the town and the other to the east.

Drainage.—None.

Cess-pools.—There is one cess-pool, which is cleaned daily.

Scavengering.—There are 1 mukádam and 8 sweepers; the street sweepings are removed to hollows around the town.

Latrines.—There are 8 public latrines, in which sand and earth is daily spread; the private privies are served by 8 Municipal sweepers; the night-soil is removed to a distance of 1 mile west of the town, where it is put in trenches and covered over with earth.

Urinals.—None.

Markets.—Fish and meat are sold in an open space of the Chandan Bázár, and vegetables in a private market: the shops are well looked after. The Chandan Market has now been enlarged to provide places for selling fish, meat and vegetable, &c.

Burial-grounds.—One to the west of the town, at a distance of 1 mile; there were 108 burials during the year.

Cremation Ghâts.—One to the south, half a mile distant from the town; 30 bodies were burnt during the year.

New Works.—Sheds over wells, &c., Rs. 214-12-0. Bathing ghâts, Rs. 42-12-0.

Municipality—RATO-DERO.

Population	Males ...	1,691
	Females...	1,366
	Total ...	3,057

	Rs.	a.	p.
Income...	4,669	11	9
Expenditure on Conservancy	1,018	1	1

Water-supply.—There are in all 9 wells with nar (wheels) for drinking; 3 maintained by the Municipality and the rest by the owners; one well has a trough attached to it, where cattle are watered. There are 2 tanks, each having steps, and in both bathing and watering cattle is allowed. In one water remains all the year round, and in the other washing clothes is permitted. Besides the tanks there are two hollows where bathing, watering cattle and washing clothes are permitted.

There is a flight of steps for bathing on the Sukkur Canal flowing near the town.

Drainage.—There is only one drain of burnt bricks for carrying off rain water.

Cess-pools.—There are 2 cess-pools of brick and lime masonry; they are cleaned regularly by the Municipality.

Scavengering.—There are 1 mukádam, 10 sweepers, 6 donkeys for taking away street sweepings, and 1 bhisti for sprinkling water in the streets and roads; the sweepings are taken away and put in hollows adjoining the town.

Latrines.—There are 4 public latrines—each has 18 seats. They are cleaned by a bhangi who takes away the night-soil to the west of the town to a distance of half a mile, where it is put in a ditch and covered over with earth. Arrangement has been made lately to have the private privies served by Municipal sweepers; hitherto-before they were cleaned by bhangis employed by the town-people.

Urinals.—None.

Markets.—There are good sheds for sale of meat and fish, which are well looked after by the Municipality.

Burial-grounds.—There are 3 burial-grounds—1 to the north, 1 to the south and 1 to the west of the town; there were 39 burials during the year.

Cremation Ghâts.—One to the north of the town; 14 bodies were burnt during the year.

New Works.—Ten new shops for sale of meat and fish at a cost of Rs. 110.

G. I. CRAWFORD,
Deputy Collector, Lárkhána.

Municipality—MEHAR.

Enumerated Population	Males ...	1,163	
	Females...	779	
	Total ...	1,942	

	Rs.	a.	p.
Annual Income	1,891	6	10
Expenditure on Conservancy	231	2	3

Water-supply.—There is no impounding reservoir; no supply cisterns; no hydrants; no draw wells. There are 12 dipping wells and no cattle troughs. Kakolewáh.—This canal flows during the inundation season; its water is used for drinking and bathing purposes. Cattle are watered and washed below the town. There are 2 tanks, without steps, reserved for bathing and watering cattle purposes. They are in good repair, and are cleaned when necessary. They are fed by a canal running close to them. There is one tank with steps, and is specially reserved for drinking and domestic purposes. It is in fair order; its steps are periodically repaired. In addition to the tanks there are 4 public wells, and they are well built, and have parapets and platforms. The supply never fails, and the quality is good; all were cleaned out before the last rains. There are 12 private wells; but some of them have become brackish.

Drainage.—There is no open side drain of masonry in the main streets nor cuttings in the side streets.

Cess-pools.—There are no cess-pools.

Scavengering.—There is no mukádam; 4 coolies; no cart and dust-bins. The sweepings are taken to a depôt on the west of the town, half a mile distance, where they are burnt.

Latrines.—There is no public latrine. There are 150 private privies served by private sweepers, and no Municipal mukádam or sweeper is employed.

Urinals.—None.

Markets.—There are sheds for mutton and fish, and shops for vegetables.

Burial-grounds.—One on the west and 1 on the east of the town—1 of 8 acres and 1 of 1½ acres. There were 27 burials during the year.

Cremation Ghâts.—One on the west and 1 on the north of the town. There were 26 bodies burnt during the year.

New Works.—No new work was carried out during the year.

Municipality—KHAIRPUR.

Enumerated Population	Males ...	913	
	Females...	1,126	
	Total ...	2,039	

	Rs.	a.	p.
Annual Income	1,541	8	11
Expenditure on Conservancy...	421	14	5

Water-supply.—There is no impounding reservoir. There are 4 supply cisterns without taps. There is no hydrant.

There is 1 draw-well; 3 dipping wells; 1 cattle trough. There is no tank without steps. There is one tank with steps, and is used for bathing and clothes-washing. Watering and washing the cattle is allowed therein.

In addition to the tanks there is one public well, which is well built, and has a parapet and no platform. The supply never fails, and the quality is good. It was cleaned out before the last rains. There are also 2 private wells.

Drainage.—There is no open side drain of masonry in the main streets nor cuttings in the side streets.

Cess-pools.—There is no cess-pool.

Scavengering.—No mukádam, but 3 sweepers are employed; no cart and dust-bins. The sweepings are taken to a depôt on the west of the town, half a mile distance, and they are buried in the ground.

Latrines.—There is no public latrine; 50 private privies are served by private sweepers; no iron receptacles are used.

Urinals.—None.

Markets.—No sheds for mutton, fish and vegetables. There is only a platform built of kutcha bricks for them. The construction of a market is under contemplation.

Burial-grounds.—One on the south of the town, of 20 gunthas, and 2 on the east of the town—one of 10 gunthas and the other of 20 gunthas. There were 10 burials during the year.

Cremation Ghâts.—Two below the town. There were 5 bodies burnt during the year.

New Works.—One public well; 1 cattle-pound; 1 chora for Town Police 1 kutcha Landhi for Police.

Deputy Collector of Mehar.

UPPER SIND FRONTIER.

Municipality—JACOBABAD.

Enumerated Population	Males ...	3,040
	Females...	2,192
	Total ...	5,232

	Rs.	a.	p.
Annual Income	21,402	5	6
Expenditure on Conservancy	3,398	7	11

Water-supply.—Three inundation canals from the Indus pass through the town from east to west, from which the inhabitants obtain their water for about four months. This water, as it flows in the canals, is laden with silt; but, like that of the Nile, is held to be very superior. At other seasons water is obtained from 32 pucka wells, of which 24 are Municipal and 8 private property. The Municipal wells were thoroughly cleared and repaired during the year. Twenty of them are provided with parapet walls and platforms. The water of all 32 wells is very good, so far as it can be judged by taste and appearance. There is, in addition, a tank with masonry steps, which is filled from the inundation canals. It is reserved for bathing and washing, and the water is not used for household purposes.

Drainage.—There are side drains of burnt brick and mud along the main thoroughfares, through which the storm waters pass into the inundation canals. No drainage, except on the surface, is practicable.

Cess-pools.—There are none in the town.

Scavengering.—This is entrusted to a contractor who maintains the following establishment:—

6 Carts with two bullocks and one driver each.
6 Carts fitted with casks, with one donkey and driver each.
1 Mukádam of sweepers.
21 Sweepers.

All thoroughfares and public latrines are swept and cleaned by the contractor. The sweepings are removed at once to a depôt, half a mile north-west of the town, where they are burnt. Night-soil is also removed to near the same depôt, and there carefully buried in trenches and thickly covered with dry earth. There is no sale of sweepings or other refuse to agriculturists.

Latrines.—There is one public latrine on the dry-earth and sand system, with 18 seats. Private latrines are cleaned by private sweepers, the exact nnmber of whom is not known.

Urinals.—None.

Markets.—There are very good sheds for the sale of beef, mutton, fish and vegetables. They are built of unburnt brick, are neatly roofed and thoroughly ventilated, and are kept very clean and free from unpleasant smells. They are plastered with clay mixed with chaff, and the plaster is removed and renewed from time to time as required.

Burial-grounds.—There are three—2 on the west and 1 on the north of the town. Their areas are—

Acres.	Gunthas.
10	28
5	31
9	27

There were 41 burials during the year.

Cremation Ghâts.—There is one burning ghát on the north-west of the town. The number of cremations during the year was 62.

New Works.—Two slaughter-yards, with masonry pillars for suspending carcasses.

Enclosing wall to grass market. Twenty culverts on road-side ditches. Forty-eight stalls for the sale of articles of food in the different markets.

E. TREVOR, Lieut.-Colonel,
Superintendent of the Upper Sind Frontier

Statement showing the Population, Annual Income and Expenditure on Conservancy in each Municipality during the year 1879-80.

Names of Municipalities.		Enumerated Population.			Annual Income.	Expenditure on Conservancy
		Males.	Females.	Total.		
Khándesh	Dhulia	6,533	6,479	13,012	23,582	4,732
	Songír	2,105	1,998	4,103	2,072	396
	Nandurbár	3,301	3,402	6,703	4,189	1,991
	Taloda	2,370	2,353	4,723	2,969	553
	Sháháda	2,540	2,604	5,144	3,244	1,209
	Prakásha	1,923	1,911	3,834	1,570	628
	Sindkheda	2,220	2,281	4,501	1,875	372
	Betávad	1,615	1,481	3,096	1,239	267
	Shirpur	2,919	2,848	5,767	4,203	2,158
	Chopda	6,953	6,746	13,699	3,854	1,698
	Amalner	3,836	3,728	7,564	2,691	671
	Párola	6,268	5,967	12,235	6,981	4,988
	Erandol	5,654	5,417	11,071	3,607	1,909
	Dharangaon	5,598	5,489	11,087	4,658	1,540
	Bhadgaon	3,105	3,048	6,153	1,666	1,205
	Máheji	...	...	...	1,110	557
Násik	Násik	11,771	10,665	22,436	40,000	18,749
	Málegaon	5,278	5,346	10,624	8,850	3,450
	Sinnar	5,132	4,912	10,044	1,400	600
	Trimback	...	...	...	2,000	312
	Igatpuri	...	...	...	2,776	908

Names of Municipalities.		Enumerated Population.			Annual Income.	Expenditure on Conservancy.
		Males.	Females.	Total.		
Ahmednagar ...	Ahmednagar City	16,619	16,222	32,841	51,056	18,799
	Sangamner	4,695	4,335	9,030	6,317	2,243
Poona	Lonávla	1,322	600	1,922	765	188
	Sásvad	3,183	3,233	6,416	2,272	572
	Jejuri	1,253	1,247	2,500	2,986	360
	Talegaon Dábháda...	2,508	2,502	5,010	2,341	531
	Talegaon Dhamdhera	2,210	2,218	4,428	1,245	330
	Sirúr...	2,007	2,358	4,365	4,391	1,380
	Junnar	5,432	5,438	10,870	4,655	1,038
	Alandi	822	802	1,624	3,399	331
	Khed	1,800	1,663	3,463	1,276	179
	Bárámati	2,227	2,227	4,454	5,300	1,050
	Indápur	1,794	1,353	3,147	1,716	280
	Poona City	47,333	43,103	90,436	1,70,000	56,000
Sholápur	Bársi...	9,662	8,898	18,560	16,813	2,866
	Sholápur City	27,986	25,417	53,403	84,326	25,418
	Pandharpur...	8,032	8,243	16,275	47,351	18,749
	Karmála Town	3,538	3,221	6,759	3,961	666
Sátára... ...	Malcolm Peth	1,612	1,147	2,759	2,803	824
	Tásgaon	7,584	4,625	12,209	3,475	847
	Ashta	5,003	4,893	9,896	886	336
	Islámpur	4,314	4,076	8,390	2,700	305
	Shingnápur...	659	663	1,322	1,852	517
	Mhasvad	2,984	2,808	5,792	1,901	149
	Máyni	1,830	1,194	3,024	490	58
	Pusesávli	1,354	1,214	2,568	1,076	197
	Sátára	13,091	11,812	24,903	35,347	11,562
	Wái	5,587	5,279	10,866	5,986	1,952
	Rahimatpur	3,288	3,118	6,406	1,378	544
Belgaum ...	Belgaum Town	10,394	9,657	20,051	27,906	12,219
	Athni Town	5,734	5,623	11,357	8,161	2,717
	Nipáni Town	4,726	4,645	9,371	7,657	1,154
	Yamkanmardi	2,674	2,622	5,296	759	294
	Gokák	4,198	3,888	8,086	5,641	2,304
	Saundatti	3,132	3,274	6,406	1,693	759
	Yellamma's Hill	...	...	...	2,849	169
Dhárwár ...	Dhárwár Town	11,594	11,702	23,296	21,272	4,950
	Nargund Town	5,068	4,863	9,931	2,901	575
	Navalgund	4,783	4,795	9,578	5,556	867
Kánara ...	Kárwár	7,079	6,184	13,263	10,109	3,285
	Haliyál	2,601	2,470	5,071	4,992	781
Ratnágiri ...	Chiplún	4,430	4,350	8,780	8,716	80
	Vengurla	4,610	4,390	9,000	15,077	7,932
	Rájápur	3,742	3,704	7,446	7,919	4,345
	Ratnágiri	8,194	6,806	15,000	1,092	139
Surat	Ránder	4,702	5,578	10,280	17,648	7,272
	Bulsár Town	5,808	5,507	11,315	13,119	2,196
	Mándvi Town	2,059	2,088	4,147	4,280	509
	Surat City	54,782	52,367	107,149	236,172	78,926
Kaira	Nadiád	13,686	13,022	26,708	22,089	2,339
	Kapadvanj	6,816	6,948	13,764	8,692	1,790
	Dákor	3,763	3,258	7,021	7,226	1,300
	Mehmadabad	3,877	3,565	7,442	2,797	345
	Kaira	5,847	5,635	11,482	8,773	1,704
Panch Mahals .	Dohad Town	4,995	4,979	9,974	4,304	378
	Godhra	5,729	5,308	11,037	3,803	384
Ahmedabad ...	Dholka	10,263	10,591	20,854	10,651	1,510
	Dhandhuka	5,156	4,626	9,782	7,581	1,196
	Gogha Town	4,853	4,718	9,571	2,952	645
	Ahmedabad City	58,477	58,396	116,873	...	51,833
	Viramgám Town	8,125	7,977	16,102	28,634	8,456
	Parántij Town	4,242	4,099	8,341	3,259	719
	Modása Town	3,730	3,706	7,436	2,327	2,264
Karáchi ...	Karáchi	32,492	21,034	53,526	2,50,000	48,929
	Mirpur	1,567	1,279	2,846	6,502	783
	Sehwan	2,263	2,113	4,376	7,036	1,745
	Johi	612	507	1,119	1,772	310
	Kotri...	7,441	3,208	7,949	13,637	3,525
	Dádú...	1,271	927	2,198	2,875	707
	Mánjhand	1,387	1,267	2,654	2,031	383
	Bubak	1,453	1,383	2,836	4,059	676
	Tatta...	3,836	4,115	7,951	11,894	1,769
	Keti	1,420	779	2,199	7,040	803
Hyderabad ...	Kandiáro	1,262	1,296	2,558	1,421	372
	Naushahro	1,552	1,398	2,950	1,601	372
	Bhiria	1,241	1,300	2,541	2,057	307
	Tháru Sháh...	1,100	1,119	2,219	1,343	372
	Moro...	960	1,042	2,002	974	259
	Shahdádpur...	1,274	958	2,232	3,598	521
	Nasarpur	1,578	1,528	3,106	1,479	496

Names of Municipalities.		Enumerated Population.			Annual Income.	Expenditure on Conservancy.
		Males.	Females.	Total.		
					Rs.	Rs.
Hyderabad—*continued.*	Tando Alahyar	2,402	1,511	3,913	6,947	1,101
	Tando Jam	1,180	1,043	2,223	820	239
	Hála...	2,250	1,846	4,096	3,103	570
	Matári	2,606	2,314	4,920	4,088	648
	Tando Muhammad Khán	1,882	1,530	3,412	5,912	958
	Tando Adam	1,850	1,607	3,457	9,397	640
	City of Hyderabad, Sind	23,832	22,397	46,229	1,09,919	10,784
Thar and Párkar.	Umarkot	2,329	1,670	3,999	7,112	782
	Mitti...	1,407	1,173	2,580	2,599	317
	Nagar	1,408	1,017	2,425	4,236	304
Shikárpur ...	Shikárpur	19,254	18,853	38,107	77,607	46,130
	Sukkur	8,294	5,024	13,318	1,23,708	11,761
	Garhi Yásin...	2,560	2,248	4,808	8,202	1,162
	Lárkhána	5,819	4,824	10,643	22,477	2,205
	Kambar	2,034	1,484	3,518	8,017	515
	Rato-dero	1,691	1,366	3,057	4,669	1,018
	Mehar	1,163	779	1,942	1,891	231
	Khairpur	913	1,126	2,039	1,542	422
Upper Sind Frontier ...	Jacobabad	3,040	2,192	5,232	21,402	3,398
	Total ...	704,642	651,182	1,355,824	18,52,174	5,49,014

LOCAL FUND CIRCLES.

In the following pages are given the Sanitary Reports for the year 1879-80 of the several Local Fund Circles in the Bombay Presidency;—

KHA'NDESH.

Local Fund Táluka.—NANDURBA'R.

Enumerated Population ... ... { Males ... 24,621 / Females ... 23,941

Total ... 48,562

The two-thirds of the one-anna cess for 1879-80 was Rs. 6,858-14-11.

There was no expenditure on conservancy proper; but Rs. 500 were spent on repairing wells, and a new well was built at Nimbhel by the Public Works Department.

The River Tápti flows along the north of the táluka, and 28 villages are situated on its bank. In addition there are 3 or 4 tributaries, which contain water during the year, and many villages are situated on their banks. There are 193 wells in the táluka with steps and 492 without steps, and 39 tanks are very small, and merely puddles. Wells are still wanted in several of the smaller villages.

In no village in the táluka, excepting the Nandurbár Municipality, are there any arrangements for scavenging, drainage, or are there any latrines or urinals.

There are no markets anywhere; but, in addition to Nandurbár, there are weekly bázárs at Bodvad, Ranála, Koparli and Nizur.

The villagers, as a rule, bury their dead in the Wardali numbers, which vary in position in the various villages, and burn their dead in the nearest nálas. There are, of course, no details as to the number of bodies burnt and buried.

In addition to the well and the well repairs, the roads were in places repaired and road-side trees looked after.

Local Fund Táluka.—SHA'HA'DA.

Enumerated Population ... ... { Males ... 19,199 / Females... 18,480

Total ... 37,679

The two-thirds of the one-anna cess for 1879-80 was Rs. 8,594-5-6.

There was no expenditure on conservancy proper; but Rs. 879-6-2 was expended on two wells.

The táluka is, as a rule, well off for water, the Tápti flowing past the southern boundary, and Gomai and its numerous tributaries flowing through the táluka. Except, however, on these rivers, water is scarce, and there are several villages urgently in need of wells. There are 8 small tanks (puddles) in the táluka, and 77 step-wells and 547 wells without steps.

There are no conservancy arrangements, scavengering, latrines or urinals, except in the two Municipalities.

There are no markets; but, in addition to the two Municipal towns of Sháháda and Prakásha, there are weekly bázárs at Torkhed and Sananked.

The villagers, as a rule, bury their dead in the Wardali numbers situated near their own villages, and burn them in the nearest nálas. It is not known how many were burnt and buried.

The only other works carried out in the year, in addition to the two wells mentioned above, were road repairs and road-side tree-planting.

Local Fund Táluka.—TALODA.

The enumerated Population ...	Males	...16,581
	Females	...15,531
	Total ...	32,112

Two-thirds of the one-anna cess for 1879-80 is Rs. 3,589-4-8.

There was no expenditure on conservancy proper; but Rs. 1,000 were expended on the well in Municipal limits from Local Funds, and another well was built by the Public Works Department.

The Tápti flows along the south of the táluka; but water is scarce away from the river, and wells are needed in several villages. In the Aprani the villagers drink out of the nálas, merely scraping a hole in the sand, when these dry up. There are 30 wells in the táluka with steps and 119 without, and 3 small tanks.

Except in the Municipality of Taloda, there are no special conservancy arrangements anywhere.

There are no markets; but, in addition to Taloda, weekly bázárs are held at Bornár, Kupermunda and Dharangaon.

The villagers in the plains bury their dead in the Wardali numbers, and burn them in the nearest nála; in the jungle villages the dead are buried, as a rule, in the jungle. The number burnt and buried is not known.

In addition to the wells mentioned, the only works in the táluka were trivial road repairs and preservation of road-side trees.

Local Fund Táluka.—DHULIA.

The enumerated Population	Males	... 27,866
	Females	... 25,627
	Total ...	53,493

Two-thirds of the anna cess for 1879-80 amounted to Rs. 8,656-7-9.

No expenditure was incurred on conservancy proper.

The Bori and Pánjhra Rivers pass through the táluka; but many of the villages on the high lands are deficient in water.

There are 64 step-wells and 1,860 wells without steps, and also 7 tanks, 2 of which are large.

Except in the Municipalities, there are no conservancy arrangements in any village.

There are no markets except in Dhulia; but, in addition to Dhulia and Songír, which are Municipalities, bázárs are held weekly at Kusumb, Ner, Sirud, Borkund, Arni, Khed, Nyalode, Kaparna and Mukti.

The villagers burn their dead in the most convenient nála near the village, and bury them in the portions of the Wardali numbers set apart for that purpose. The number of dead treated in each way is not known.

A well was built by the Public Works Department, and large expenditure incurred on two roads, and there was also expenditure on other road repairs and on road-side tree-planting.

Local Fund Táluka.—PIMPALNER.

Enumerated Population 57,186.

The two-thirds of the one-anna cess for 1879-80 was Rs. 5,082-2-1.

There was no expenditure on conservancy proper; but Rs. 51 was expended on removing steps from a well at Amli, and another well was made in the Nizámpur Petta.

The River Pánjhra flows through the táluka. Water is, however, scarce both in Navápur and Nizámpur Petta.

There are 166 step-wells and 1,334 without steps; there are also 16 tanks, but none of them are large.

There are no conservancy arrangements, scavengering, latrines or urinals in any village in the táluka.

There are no markets; but bázárs are held at Nizámpur, Sakri, Dahivel, Kására, Pimpalner, Navápur, Mhardi and Visarvadi.

The villagers, as a rule, bury their dead in the Wardali numbers situated near their own villages, and burn them in the nearest nálas. The number of bodies burnt and buried is unknown.

In addition to the well mentioned, a dharmshála was built and large expenditure incurred on the Dhulia-Pimpalner road.

J. DAVIDSON,
Second Assistant Collector.

Local Fund Circle.—TA'LUKA VIRDEL.

Population	Males	33,276
	Females	32,126
	Total	65,402

	Rs.	a.	p.
Local Fund Income	17,317	11	9
Expenditure on Conservancy...	1,561	7	4

Town Betávad.

Population	Males	1,615
	Females	1,481
	Total	3,096

	Rs.	a.	p.
Local Fund Income	351	4	1
Expenditure on Conservancy	417	0	1

Other Headings.—*See* Municipality Statement.

New Works.—New well on Betávad-Mudvad road.

Village Waghadi.

Population	Males	259
	Females	230
	Total	489

	Rs.	a.	p.
Income	102	2	7
Expenditure on Conservancy	200	0	0

Water-supply.—One well, without steps, kept clean by villagers.

Scavengering.—House-holders do their own sweeping, and use the sweepings in their own fields.

Burial-grounds.—Not appointed. Bodies are buried in survey numbers reserved for public purposes.

Cremation Ground.—Not appointed. Eight bodies burnt during the year.

Other Headings.—Nil.

New Works.—Repairs to cattle-trough, masonry, 960 feet.

Village Dangurne.

Population	Males ...	114
	Females ...	112
	Total ...	226

	Rs.	a.	p.
Annual Income	36	11	5
Expenditure on Conservancy	177	10	11

Water-supply.—One well without steps: 1 nála to the east of the town; fails in summer and winter.

Scavengering.—House-holders do their own sweeping, and use sweepings in their own fields.

Other Headings.—None.

New Works.—New cattle-trough to a well, stone and lime masonry, 544 feet.

Village Chilane.

Population	Males ...	536
	Females ...	441
	Total ...	977

	Rs.	a.	p.
Annual Income	242	3	10
Expenditure on Conservancy	199	0	0

Water-supply.—One well with steps and 34 private wells.

Scavengering.—House-holders do their own sweeping, and use sweepings in their own fields.

Burial-grounds.—Not appointed.
Cremation Grounds.—One to the east. } 16 deaths.

Other Headings.—Nil.

New Works.—New cattle-trough to a well, stone and lime masonry, 840 feet.

Village Warud.

Population	Males ...	950
	Females ...	887
	Total ...	1,837

	Rs.	a.	p.
Annual Income	451	15	3
Expenditure on Conservancy	194	4	0

Water-supply.—Two public wells without steps; 4 private wells.

Scavengering.—House-holders do their own sweeping, and use sweepings in their own fields.

Burial-grounds.—Bodies are buried in survey numbers kept for public purposes.

Cremation Grounds.—Bodies are burnt in a nála east of the town; deaths 51.

Other Headings.—Nil.

New Works.—New well on Pashte-Warud road.

Village Dashwel..

Population	Males ...	101
	Females ...	106
	Total ...	207

	Rs.	a.	p.
Annual Income	101	5	11
Expenditure on Conservancy	99	6	5

Water-supply.—One well without steps; kept clean by villagers.

Scavengering.—House-holders do their own sweeping, and use sweepings in their own fields.

Other Headings.—Nil.

New Works.—Deepening a well.

Local Fund Circle.—TA'LUKA SHIRPUR.

Population	Males ...	19,729
	Females...	19,078
	Total ...	38,807

	Rs.	a.	p.
Local Fund Income	8,139	5	6
Expenditure on Conservancy	1,900	0	0

Village Batpur.

Population	Males ...	215
	Females...	265
	Total ...	480

	Rs.	a.	p.
Local Fund Income	1,900	0	0
Expenditure on Conservancy	220	12	0

Water-supply.—Wells—1 public and 6 private.

Scavengering.—House-holders do their own sweeping, and use sweepings in their own fields.

Burial-grounds.—One to the south-east of the village; area about 5 acres; 10 burials.

Cremation Grounds.—Not appointed. Dead bodies are burnt at the burial-ground. Six burnt during the year.

Other Headings.—None.

New Works.—One new well.

R. A. LAMB,
Assistant Collector.

Local Fund Sanitary Report of the Tálukas of the Southern Division, Khándesh, for the year 1879-80.

	Total Population.
Chálisgaon	44,568
Erandol	76,838
Amalner	76,020
Páchora	84,880

	Annual Income. Rs.	a.	p.
Chálisgaon	10,785	11	1
Erandol	13,450	8	5
Amalner	13,284	7	6
Páchora	18,277	4	6

Expenditure on Conservancy.

AMALNER.

Well at Bodarda	146	6	6
Road-side Trees	238	11	11
Well at Tondhra	21	11	6
Repairs to well at Gandhli	201	14	2
Total ...	608	12	1

ERANDOL.

	Rs.	a.	p.
Well at Sarveh	152	7	8
Do. Nádgaon Budrukh	181	15	7
Do. Chahutra	105	6	9
Road-side Trees	269	2	0
Do. Jambhor	142	2	8
Dispensary Contribution	300	0	0
Total ...	1,151	2	8

PA'CHORA.

Kunjar Well	349	15	5
Nandré do.	378	13	9
Road-side Trees	325	10	0
Dispensary...	300	0	0
Total ...	1,354	7	2

CHA'LISGAON.

Road-side Trees	362	3	4

Water-supply.—The supply is chiefly derived from wells, tanks and the nálás which intersect the tálukás. The number of wells and tanks in the different tálukas are as follows :—

	Number of Wells with Steps.	Number of Wells without Steps.	Tanks.
Amalner	79	2,985	17
Erandol	110	1,976	11
Páchora	82	2,894	1
Chálisgaon	35	1,802	2

Drainage.—On the main roads there are side cuttings and gutters. No special drainage works have been constructed.

Cess-pools.—In few isolated places cess-pools exist, which are cleaned out by the owners.

Scavengering.—There is no special scavenging establishment except in Municipal towns, which will be noticed in the report about Municipalities.

Latrines, Urinals and Markets.—None.

Burial-grounds and Cremation Ghats.—Old burial-grounds in almost every village is in existence. They are all at some distance from the towns and villages. The burning grounds are also set apart in each village.

New Works.—*Vide* the items under the head of Conservancy.

ARDESIR JAMSEDJI,
Acting District Deputy Collector, and Vice-President,
Local Fund Committe, S. D., Khándesh.

Local Fund Circle—TÁLUKA CHOPDA.

Population	Males ...	29,121
	Females...	27,247
	Total ...	56,368
Income...	...Rs.	10,441 7 5
Expenditure on Conservancy ...	... „	1,589 14 0

Town—CHOPDA.

Population	Males ...	6,953
	Females...	6,746
	Total ...	13,699

	Rs.	as.	p.
Local Fund Income	1,223	4	0
Expenditure on Conservancy	219	0	0

Water-supply.—Four step-wells; kept in order out of Local Funds.

Other Headings.—*See* Municipal Statement.

New Works.—New well on the Chopda-Chahardi road.
Repairs to cattle trough to well on Chopda-Thálner road.

Village—VET.

Population	Males ...	116
	Females...	128
	Total ...	244

	Rs.	as.	p.
Income	59	13	0
Expenditure on Conservancy	79	15	11

Water-supply.—One well without steps; kept clean by villagers.

Scavengering.—House-holders do their own sweeping, and use the sweepings in their own fields.

Burial-grounds.—One to the west of the village. There were 8 bodies buried during the year. Area unknown.

Cremation Ground.—One to the north.

Other Headings.—Nil.

New Works.—Repairs to well.

Village—AKULKHEDE.

Population	Males ...	440
	Females...	445
	Total ...	885

	Rs.	as.	p.
Income	150	10	3
Expenditure on Conservancy	100	0	0

Water-supply.—One well without steps; kept clean by village servants.

Scavengering.—By house-holders and village servants; sweepings used in fields.

Burial-grounds.—One to the north. Area unascertained; 31 burials.

Cremation Grounds.—One to the north.

Other Headings.—Nil.

New Works.—Repairs to well.

Village—KHADGAM.

Population	Males ...	101
	Females...	104
	Total ...	205

	Rs.	as.	p.
Annual Income	63	15	6
Expenditure on Conservancy	30	0	0

Water-supply.—One step well; 2 wells without steps; kept clean by villagers

Burial-grounds.—One to the east; 3 burials.

Cremation Grounds.—One to the east.

Other Headings—Nil.

New Works—Repairs to well.

Village—RUKANKHEDE.

Population	Males ...	138
	Females ...	132
	Total ...	270

	Rs.	a.	p.
Annual Income	29	1	2
Expenditure on Conservancy	100	0	0

Water-supply.—One well without steps; kept clean by villagers.

Burial-grounds.—One to the east; 1 burial.

Cremation Grounds.—One to the east.

New Works.—Repairs to well.

Village—ADGA'M.

Population	Males ...	749
	Females ...	744
	Total ...	1,493

	Rs.	a.	p.
Annual Income	180	11	5
Expenditure on Conservancy	43	3	0

Water-supply.—One step-well.

Burial-grounds.—Two, to south and west; 11 burials.

Cremation Grounds.—Two, to south and west; 9 bodies were burnt during the year.

New Works.—Repairs to well.

Village—A'DA'VAD.

Population	Males ...	2,343
	Females...	2,112
	Total ...	4,455

	Rs.	a.	p.
Annual Income	345	10	0
Expenditure on Conservancy	100	0	0

Water-supply.—Two wells without steps.

Drainage.—Open side gutter of masonry in main street.

Cess-pools.—Thirty-two houses have receptacles for dirty water, &c.

Latrines.—No public; 20 private.

Urinals.—None.

Bázárs.—No buildings.

Burial-grounds.—Four to the N. E. S; 31 burials.

Cremation Grounds.—Four to the west; 46 bodies were burnt during the year.

New Works.—Repairs to well.

R. A. LAMB,
Assistant Collector.

NA'SIK.

Local Fund Táluka.—NA'SIK.

The population of the táluk, according to the Census of 1872, was 90,271.

The average annual Local Fund collection is about Rs. 9,026.

During the year 1879-80, expenditure on works connected with sanitation was only incurred in two villages—Dahigaon and Makhmalabad. The total expenditure was Rs. 280-11-0.

In Dahigaon the only well in the village was repaired at a cost of Rs. 134-11-0, while in Makhmalabad a well was repaired at a cost of Rs. 146. In this village there are one or two other wells, and, in addition, a nála flows past the village, and for several months of the year affords a supply of water to the inhabitants.

There are no latrines, drains, cess-pools or other sanitary arrangements in either village.

There are no markets.

In Dahigaon there is one burying ground about 200 yards from the village on the west, and in Makhmalabad there is both a burial and burning ground on the bank of the nála referred to; but, as they are below the village, the water used by the people is not affected by the proximity of these grounds to the nála.

Statement showing Sanitary Works, such as Wells, Tanks, Drains, &c., constructed and repaired from Local Funds in the Táluka of Násik from 1869-70 *to* 1879-80.

Description of Work.	Amount. Rs. a. p.
1869-70.	
Constructing a tank at Girnare	1,080 0 2
Do. a well at Vághera	400 0 0
Repairs to well at Sharanpur	100 0 0
1870-71.	
Constructing two wells at Anjawri	6 0 0
Repairs to well at Dari	350 0 0
Do. do. at Makhamalabad	125 0 0
Do. to another well at Makhamalabad	150 0 0
Do. to well at Pengalwadi	200 0 0
Do. do. at Pimplad	250 0 0
Do. do. at Amboli	300 0 0
1871-72.	
Constructing a well at Pingalwadi	357 0 0
Do. do. at Anjawri	369 0 0
Do. do. at Trimbak	300 0 0
Repairs to tank at Brahmanwadi	938 0 0
Do. to well at Manmodi	169 15 4
Clearing a well near Sharanpur	6 0 0
1872-73.	
Constructing a well at Morwadi	474 0 0
Do. do. at Amboli	545 0 0
Do. do. at Kachurlé	335 0 0
1873-74.	
Constructing a well at Lahavit	437 13 10
Do. do. at Mahiraoni	392 0 0
Do. do. at Velunje	378 0 0
Do. do. at Rajun Bahula	200 0 0
Do. do. at Pengalwadi	428 0 0
Do. do. at Kalmuste	470 0 0
Do. do. at Kone	438 0 0
Do. do. at Kachurli	450 0 0
Repairs to well at Wadholi	464 0 0
Do. do. at Madsangvi	532 0 0
Do. do. at Khambale	200 0 0
1874-75.	
Constructing a well at Sharanpur	418 12 5
Do. do. at Lahavit	214 10 9
Do. do. at Velunje	379 2 11
Repairs to well at Khambale	182 8 11
1875-76.	
Constructing a well at Sharanpur	54 10 0
Do. do. between Takle Khurd and Takle Budrukh ...	189 5 1
Repairs to wells throughout the Táluka	299 12 0
Do. tank at Khambale	336 12 7

Description of Work—continued.

	Amount. Rs. a. p.
1876-77.	
Repairs to wells in Násik Táluka	159 0 0
1877-78.	
None.	
1878-79.	
Deepening a well at Ubrande	17 8 0
Do. do. at Harshwadi	22 0 0
Do. do. at Shirusgaon	15 0 0
Do. do. at Kalmuste	37 0 0
Repairs to the well at Wasali	164 0 0
Do. do. at Adgaon	200 0 0
1879-80.	
Special repairs to the drains on Násik and Trimbak road	230 9 6
Repairs to the well at Dahigaon	134 11 0
Do. do. at Makhmalabad	146 0 0

H. F. SILCOCK,
President, Táluka Local Fund Committee.

Local Fund Circle.—MALEGAON TA'LUKA.

Population.	Males ...	32,000
	Females...	33,000
	Total ...	65,000
Annual Income	Rs.	11,430
Expenditure on Conservancy	„	700

Water-supply.—There are wells built and repaired from Local Funds in following villages :—

1. Málegaon.
2. Tehera.
3. Sayagaon.
4. Dahiwahal.
5. Kaolane.
6. Yerandgaon.
7. Gigaon.
8. Chinchwe.
9. Jalgaon (Nimbáit) one well for low caste.
10. Aghar
11. Saundane—one well for low caste.
12. Nándgaon.
13. Chinchgaon.
14. Karanjgaon.
15. Nimbáit.
16. Dahikute.
17. Munyse.

Most of the villages have river water, or wells built by private persons.

Local Fund Circle.—NA'NDGAON TA'LUKA.

Population.	Males ...	13,810
	Females...	13,239
	Total ...	27,049
Annual Income	Rs.	3,891
Expenditure on Conservancy	„	500

Water-supply.—There are wells built and repaired from Local Funds in the following villages :—

1. Khirdi.
2. Hingne.
3. Sawargaon.
4. Nándgaon—for low caste.
5. Jategaon.
6. Náydongri.
7. Jamdari.
8. Hingne.
9. Karbi.

Besides the above, the villagers use the river water, or wells built by private persons.

Local Fund Circle—BA'GLAN TA'LUKA.

Population	Males ...	29,675	
	Females...	28,066	
	Total ...	57,741	
Annual Income		... Rs.	8,374
Expenditure on Conservancy... ...		... „	750

Water-supply.—There are wells built and repaired from Local Funds in the following villages :—

1. Tembhe—for low-caste people.
2. Dansane.
3. Wádi Pisol.
4. Wadeked.
5. Málegaon.
6. Mulane.
7. Mahar Patne.
8. Changaon.
9. Talwada.
10. Avate.
11. Jáykheda.
12. Virgaon.
13. Párner.
14. Tigri.
15. Pingalwadi.
16. Pada of the village of Aundane.

There are cattle troughs built from Local Funds in the following villages :—

1. Kersane.
2. Primpri Lakhmapur.
3. Ratil.
4. Nawegaon.

Besides these, the villagers use the river water, or wells built by the private persons.

KALVAN TA'LUKA.

Population	Males ...	25,043	
	Females...	22,878	
	Total ...	37,921	
Annual Income		... Rs.	5,110
Expenditure on Conservancy ...		... „	150

Water-supply—There are wells built and repaired from Local Funds in the following villages :—

1. Hátgad.
2. Sajola.
3. Kurmale.

Besides these, the villagers use the river water, or wells built by private persons.

C. E. FROST,
First Assistant Collector, Násik.

Local Fund Circle.—SINNAR TÁLUKA.

1. The Population of the Táluka, according to the Census of 1872, is 64,872
2. The average annual Local Fund contribution amounts to ... ... Rs. 10,500
3. The expenditure from Local Funds on works connected with Sanitation and Conservancy was ... „ 550

Three wells were repaired during the year in Aundhewadi at a cost of Rs. 200, Admadi Rs. 100, and Hivergaon Rs. 250. In none of these villages are there any other wells, and there are no sanitary works either in existence or in progress.

The burial-grounds attached to all the villages are about 200 yards from the nearest house.

Statement showing Sanitary Works, such as Wells, Tanks, Drains, &c., constructed and repaired fom Local Funds in the Táluka of Sinnar from 1869-70 *to* 1879-80.

Description of Work.	Amount. Rs.	p.	a.
1869-70.			
Constructing a well at Hivergaon	270	0	0
Do. a well at Shaha	285	0	0
Do. Jeera or well in the river bed at Putlachiwadi	61	0	0
Do. watering trough for cattle at Higanwadi, near Shaha ...	100	0	0
Deepening a well at Sinnar	25	0	0
Constructing a well at Aundhewadi	80	4	0
Do. a well at Oojani	50	0	0
1870-71.			
Constructing a well at Pathre	100	0	0
Do. do. at Shaha	110	0	0
Do. do. at Oojane	40	0	0
Do. do. at Hivergaon	74	3	6
Do. watering trough at Nirhale	24	0	0
Do. Jeera in the river bed at Putlachiwadi	90	0	0
Repairs to a well at Sinnar	35	0	0
Do. do. at Thangaon	150	0	0
1871-72.			
Constructing a well at Oojani	145	8	0
Do. watering trough at Nirhale	24	0	0
Do. well at Mirgaon	565	0	0
Do. do. at Pimpgale	514	0	0
Do. do. at Maldhan	881	0	0
Do. do. at Aundhewadi	169	12	0
Do. do. at Hivergaon	65	12	6
Do. do. at Shaha	105	0	0
Do. another well at Hivergaon	60	0	0
1872-73.			
Constructing a well at Manihgaon	970	0	0
Do. at Nehonwad	103	0	0
Do. at Gurewadi	645	0	0
Do. at Mirgaon	383	0	0
1873-74.			
Constructing a tank at Atkamare	36	0	0
Do. well at Gorewadi	200	0	0
Repairs to well at Sanori	740	0	0
Do. at Neshwandi	740	0	0
Do. at Málegaon	204	0	0
Do. at Bhojápur	680	0	0
Do. at Panchale	200	0	0

Description of Work—continued.	Amount. Rs.	a.	p.
1874-75.			
Repairs to well at Jambgaon	1	0	0
Do. at Nimbgaon	3	0	0
Do. at Wargir	3	0	0
Do. at Sanori	284	14	7
Do. at Neeshwandi	218	0	0
Do. at Panchale	50	0	0
1875-76.			
Constructing a well at Bhojápur	186	0	0
Do. at Panchale	467	10	0
Do. at Sonari	69	15	7
Repairs to well at Pathre Khurd	239	12	3
1876-77.			
Constructing a well at Nimbgaon	143	10	2
1877-78.			
Deepening a well at Bhokni	300	0	0
Building a water hole at Sayale	125	0	0
Do. do. at Dodi	75	0	0
1878-79.			
Constructing a well at Nimbgaon	750	3	1
1879-80.			
Repairs to the well at Hivergaon	250	0	0
Do. at Aundhewadi	200	0	0
Do. at Dhulwad	200	0	0
Do. at Adwadi	100	0	0

Local Fund Circle.—IGATPURI TÁLUKA.

1. The Population of the Táluka 57,732
2. The average annual Local Fund contribution amounts to about ...Rs. 5,030
3. Out of this, during the year 1879-80, only Rs. 190 were expended on works connected with sanitation. A new well was constructed at Gorwad Budrukh at the above cost. This is the only well in the village which is rather badly off for water.

No other sanitary works are in existence or in progress in the village. There is only one burial-ground, and it is about half a mile from the village.

Statement showing Sanitary Works such as Wells, Tanks, Drains, &c., constructed and repaired from Local Funds in the Táluka of Igatpuri from 1869-70 *to* 1879-80.

Description of Work.	Amount, Rs.	a.	p.
1869-70.			
Repairs to a well at Amalkhede	10	0	0
Do. at Igatpuri	50	0	0
1870-71.			
Building latrines at Igatpuri	162	1	3
Repairs to a well at Adman	400	0	0

Description of Work.—continued.

1871-72.

	Amount. Rs.	a.	p.
Constructing a well at Dhargoan	443	0	0
Do. do. at Kher	548	0	0
Do. latrines at Igatpuri	838	0	0
Do. well at Adharwad	200	0	0
Do. do. at Modall	50	0	0
Do. do. at Tringalwadi	432	0	0

1872-73.

None.

1873-74.

Constructing a well at Nándgoan Budrukh	438	0	0
Do. at Nándgaon Sadu	438	0	0
Do. at Korhale	438	0	0
Repairs to wells in Igatpuri Táluka	300	0	0
Do. to a well at Pimpri Sadardin...	180	0	0
Do. do. at Vághera	150	0	0

1874-75.

Constructing a well at Wadivera	343	15	8
Do. do. at Pardevi	489	14	4
Repairs to wells in Igatpuri Táluka	259	8	0

1875-76.

Building a wing wall to the tank at Wadivera	157	3	9
Repairs to tank at Wadivera	551	14	9
Do. at Girnare	524	2	8

1876-77.

Repairs to wells in Igatpuri Táluka	45	0	0

1877-78.

None.

1878-79.

Constructing a well at Wadivera	115	13	1
Do. at Nándgaon Sadu	513	5	7
Repairs to tank at Wadivera	115	13	1
Do. to well at Titoli	150	0	0
Do. to tank at Talegaon Budrukh	60	0	0
Do. to well at Padali Deshmukh	33	0	0

1879-80.

Repairs to well at Zarmad Budrukh...	190	0	0

H. F. SILCOCK,

President, Igatpuri Local Fund Committee.

AHMEDNAGAR.

AHMEDNAGAR DISTRICT.

Water-supply.—

1.	Pavement to a water trough at Shahar-Takli in the Nevása Táluka. Cost	Rs.	125
2.	Constructing a water trough at Ghodegaon in Nevása Táluka. Cost...	„	306
3.	Renewing a well at Singwa Tukai in Nevása Táluka. Cost	„	724
4.	Converting a step-well into a draw-well at Hanga in Párner Táluka	„	201
5.	Nakzira at Kotúl in Akola Táluka	„	432
6.	Special repairs to the well at Hivargoan in Sangamner Táluka...	„	60
	Total ...	Rs.	1,848

Drainage.—None.

Cess-pools.—None.

Scavengering.—This duty is done in each village by village servants.

Latrines.—None.

Urinals.—None.

Markets.—None.

W. PORTEOUS,
First Assistant Collector in Charge.

POONA.

Sanitary Report of the District Public Works Fund, Poona, for the year 1879-80.

District—POONA.

	Rs.	a.	p.
Annual Income	1,00,588	12	8
Expenditure on Conservancy	5,456	3	3

Water-supply.—Seven new wells were sunk and constructed with masonry during the year. These are all built without steps, in order to keep the water pure; they all have parapet walls, and some are fitted with wheels for lifting water. Troughs for cattle have also been built near some of the wells, and care has been taken to serve proper drainage. The total expenditure on wells was Rs. 3,363-3-2 ; out of this Rs. 599-10-6 were expended on the well at Nagathli, which has been completed, with an additional outlay of Rs. 546-1-8, during the current year (1880-81). A well at Pathergaon was previously sunk, but portions of it were rebuilt in 1879-80, at a cost of Rs. 31-15-7. Nine wells were repaired during the year ; some were cleaned and others deepened, &c.

There is a well at Diksál, at which a lamp has been furnished. The total expenditure on account of repairs was Rs. 1,819-1-9. There are two tanks—one at Supa and another at Pátas. A servant has been employed at each of these tanks to prevent bathing, washing, &c., in it. The tank at Pátas has been repaired by the Irrigation Department at a cost of Rs. 15-5-5, including which, the total expenditure on these tanks was Rs. 78-1-9.

Prickly-pear Clearances.—Prickly-pear was extirpated at seven places and buried under ground to prevent it from growing up again ; the area thus cleared was 25,350 feet ; expenditure on this was Rs. 163-13-0.

J. MOORE,
Collector of Poona.

SA'TA'RA.

Local Fund Circle—SÁTÁRA.

Enumerated Population...	Males	53,072
	Females ...	52,391
	Total ...	105,463
Annual Income	Rs.	9,868 15 7

Expenditure on Conservancy.—None.

Water-supply.—Each village has a water-supply. The details could not be given except after months of inquiry.

Drainage.—None.

Cess-pools.—None.

Scavengering.—None.

Latrines.—None.

Urinals.—None.

Markets.—None.

Burial-grounds.—Each village has a burial-ground and a cremation ghát.

New Works.—None. The money has chiefly been spent on road repairs and planting trees.

Local Fund Circle—WÁI.

Enumerated Population	Males ...	42,399
	Females...	39,942
	Total ...	82,341
Annual Income	Rs.	7,532 10 10

Expenditure on Conservancy.—Nil.

Water-supply.—Every village in the táluka has a water-supply from river or wells. To collect this information would require many months.

Drainage.—None.

Cess-pools.—None.

Scavengering.—None.

Latrines.—None.

Urinals.—None.

Markets.—There are no built markets

Burial-grounds.—Nearly every village has a burial-ground.

Cremation Ghats.—Every village has a cremation ground.

New Works.—No money has been spent on conservancy during the year. The works effected have been chiefly repairs to roads, dharmshálas, &c., and planting trees.

Local Fund Circle—KOREGAON.

Enumerated Population	Males ...	37,872
	Females...	36,834
	Total ...	74,706
Annual Income	Rs.	9,877 2 7

Expenditure on Conservancy.—None.

Water-supply.—Almost every village has a water-supply. It is impossible to give the particulars in this place.

Drainage.—None.

Cess-pools.—None.

Scavengering.—None.

Latrines.—None.

Urinals.—None.

Markets.—None.

Burial-grounds.—Almost every village has a burial-ground and a cremation ghát.

New Works.—None. The works carried out during the year have chiefly been repairs to roads and schools and planting trees.

Local Fund Circle—JÁVLI.

Enumerated Population	Males ...	28,789
	Females...	27,163
	Total ...	55,952

	Rs.	a.	p.
Annual Income	3,736	6	2
Expenditure on Conservancy	1,250	0	0

Water-supply.—Every village in the táluka has a water-supply. It is impossible to give the information asked for except after months of inquiry.

Drainage.—None.

Cess-pools.—None.

Scavengering.—None.

Latrines.—None.

Urinals.—None.

Markets.—None.

Burial-grounds.—Almost every village has a burial-ground and a cremation ghát.

New Works.—Water has been brought into the town of Medha from a well to the north of the town by iron pipes, and is now distributed in three cisterns in the town itself.

C. H. JOPP,
Acting Second Assistant Collector.

BELGAUM.

Statement showing the Expenditure incurred on Works of Sanitary Improvements from Local Funds in the Belgaum District during the year 1879-80.

No.	Tálukas.	Name of Work.	Amount of Expenditure up to 31st March 1880.	Remarks.
			Rs. a. p.	
		Original Works.		
1	Sampgaon ...	A drawing well at Bailhongal ...	871 8 3	Completed.
		Repairs.		
2	Chikodi ...	Maslikaranji water works at Hukeri ...	635 14 7	Not completed.

J. F. FLEET,
Acting Collector.

SURAT.

Local Fund Circle.—SURAT.

Enumerated Population ...	Males ...	304,246
	Females ...	302,841
	Total ...	607,087

	Rs.	a.	p.
Income	1,59,609	7	3
Expenditure on objects affecting public health such as—			
Dispensaries	9,681	4	8
Vaccination...	2,444	14	3
Parahás at Táluka Kacheris for supplying drinking water	386	12	1
Tanks, wells, and cattle troughs ...	27,664	11	10
Road-side trees	1,827	6	2
Watering roads	1,893	1	8
Dharmsháles and Staging Bungalows ...	2,405	8	8
Total ...	46,303	11	4

Water-supply.—The following are the principal rivers passing through the district, the waters of which are used by the inhabitants of towns and villages situated on them.

The Tápti, the Kím the Sína, the Púrna, the Mindhola, the Ambika, the Káveri, the Kheraro, the Auranga, the Wanki, the Pár, and the Damanganga.

There were on the 31st of December last 11,886 wells, 81 with and 11,805 without steps, and 1,900 tanks in the district, excepting the City of Surat. The outlay of Rs. 27,664-11-10 shown above was incurred in constructing and repairing 23 tanks, 83 wells, and 10 cattle troughs.

New Works.—The construction of a new building for the Dispensary at Olpád, estimated to cost Rs. 7,965, is still in progress. A dead-house for holding *post mortem* examinations at the Dispensary at Mándvi was added last year at a cost of Rs. 305. A new Dharmshála was built and thrown open for the use of travellers at the village of Nogama on the high road leading from the Mándvi Kusba to the Railway Station at Kim.

A. A. BORRADAILE,
Collector and President, Local Fund Committee.

KAIRA.

Local Fund Circle—A'NAND.

Enumerated Population... ...	Males ...	82,078
	Females ...	67,874
	Total ...	149,952

Annual Income	Rs.	24,112
Expenditure on water-supply, including expenditure on repairs to tanks, wells, &c., during the year ...	„	6,615

Water-supply.—Fifty-two wells and 38 tanks were completed from the commencement of Local Funds up to the year 1878-79.

New Works.—Nine tanks and 2 wells. The tanks were built at the following villages :—Dholi, Wagasi, Ajurpura, Od, Ajupura, Hadqood, A'nand, Lawal, and Thamna. Out of two wells, one is constructed in the Kacheri compound of the town of Umreth, and the other at Kunjrao, which is built for the use of the people of lower castes of the village.

Local Fund Circle—MEHMADABAD.

Enumerated Population... ...	Males ...	45,017
	Females ...	40,737
	Total ...	85,754

Annual Income	Rs.	14,682
Expenditure on water-supply, including expenditure on repairs to tanks, wells, &c., during the year ...	„	1,212

Water-supply.—Thirty-seven wells and 19 tanks were completed from the commencement of Local Funds up to the year 1878-79.

New Works.—Two wells and one tank. The well at Kaira, which was sunk for drawing water by a wind-pump, is not now in use. The well at Java is well-built, the supply never fails, and the quality is good. The tank at Sankhej is without steps, and in this bathing, clothes-washing and cattle-watering are permitted. It is in good order.

Local Fund Circle—MA'TAR.

Enumerated Population	Males ...	41,751
	Females ...	36,922
	Total ...	78,673
Annual Income	Rs.	21,152
Expenditure on water-supply, including expenditure on repairs to tanks, wells, &c., during the year ...	„	4,070

Water-supply.—Thirty-two tanks, 37 wells and 1 step-well were completed from the commencement of Local Funds up to the year 1878-79.

New Works.—Two tanks and 2 wells. Improvements to tanks were made at Sinjiwâda and Bamangam. They are without steps, and in one of these bathing and clothes-washing are permitted, as well as cattle-watering and washing. The other is reserved for drinking purposes.

Out of 2 wells, 1 was sunk at Asamli, and the other at Damri. They are well built, the supply never fails, and the quality is good.

Local Fund Circle—THA'SRA.

Enumerated Population	Males ...	46,139
	Females ...	39,462
	Total ...	85,601
Annual Income	Rs.	11,100
Expenditure on water-supply, including expenditure on repairs to tanks, wells, &c., during the year ...	„	1,140

Water-supply.—Forty-three wells and 25 tanks were completed from the commencement of Local Funds up to the year 1878-79.

New Works.—One well. This well was sunk in the village of Dhunadra. It is well built, and is in good order. The supply never fails entirely; but is, at times, very small, and the quality is good.

Local Fund Circle—KAPADVANJ.

Enumerated Population	Males ...	45,182
	Females...	41,560
	Total ...	86,742
Annual Income	Rs.	8,535
Expenditure on water-supply, including expenditure on repairs to tanks, wells, &c., during the year	„	2,400

Water-supply.—Forty-two wells, 20 tanks and 3 step-wells were completed from the commencement of Local Funds up to the year 1878-79.

New Works.—One tank and 1 well. The tank was excavated at Dyup. It is without steps, and is used for bathing and washing purposes. It is also used for washing and watering cattle.

The well at Sornani-Mocwadi is in good order. The supply never fails, and the quality is good.

Local Fund Circle—NADIA'D.

Enumerated Population	Males ...	80,540
	Females...	70,943
	Total ...	1,51,483

Annual Income	Rs.	25,241
Expenditure on water-supply, including expenditure on repairs to tanks and wells, &c., during the year...	,,	2,637

Water-supply.—Forty wells, 35 tanks and 2 step-wells were completed from the commencement of Local Funds up to the year 1878-79.

New Works.—Two wells. One is at Bamroli, and the other at Chaloli. They are in good order. The latter is constructed for the use of the people of lower caste. The supply never fails, and the quality is good.

Local Fund Circle—BORSAD.

Enumerated Population	Males ...	78,435
	Females...	66,093
	Total ...	144,528

Annual Income	Rs.	23,186
Expenditure on water-supply, including expenditure on repairs to wells, tanks, &c., during the year	,,	4,895

Water-supply.—Thirty-seven wells and 31 tanks were completed from the commencement of Local Funds up to the year 1878-79.

New Works.—Four tanks and 1 well. The tanks were excavated at Pandoli, Dantili, Kathana and Dalu. In these tanks bathing and clothes-washing is permitted. It is also used for watering and washing cattle. The well at Nápád is constructed for the use of the lower castes of the village. It is in good order. The supply never fails, and the quality is good.

PANCH MAHÁLS.

Local Fund Circle—GODHRA.

Enumerated Population	Males ...	39,935
	Females...	34,079
	Total ...	74,014

Annual Income	Rs.	20,064 13 0
Expenditure on Conservancy*	,,	...

In Godhra Circle there are 30 villages.

Original Works.—Eleven wells and 4 tanks.

Repairs.—Fourteen wells and 8 tanks.

Local Fund Circle—KA'LOL.

Enumerated Population	Males ...	21,329
	Females...	19,176
	Total ...	40,505

	Rs.	a.	p.
Annual Income	5,592	3	0
Expenditure on Conservancy*	144	0	0

In Kálol Circle there are 22 villages

Original Works.—Seventeen wells and 4 tanks.

Repairs.—Ten wells and 2 tanks.

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* *Note*—Expenditure on Conservancy for Godhra Town has not been shown here, as it was incurred from Municipal Funds.

Local Fund Circle—DOHAD.

Enumerated Population ...	Males ...	32,382
	Females...	31,131
	Total ...	63,513

Annual Income	... Rs.	8,177
Expenditure on Conservancy* ...	... „	...

In Dohád Circle there are 24 villages.

Original Works.—Fourteen wells and 2 tanks.

Repairs.—Fourteen wells and 10 tanks.

Local Fund Circle—HA'LOL.

Enumerated Population ...	Males ...	13,829
	Females...	12,097
	Total ...	25,926

	Rs.	a.	p.
Annual Income	...7,742	14	4
Expenditure on Conservancy	96	0	0

In Hálol Circle there are 40 villages.

Original Works.—Twenty wells and 10 tanks.

Repairs.—Eleven wells and 13 tanks.

Local Fund Circle—JHA'LOD.

Enumerated Population ...	Males ...	18,829
	Females...	17,956
	Total ...	36,785

	Rs.	a.	p.
Annual Income	2,737	12	2
Expenditure on Conservancy	96	0	0

In Jhálod Circle there are 16 villages.

Original Works.—Twelve wells.

Repairs.—Six wells and 7 tanks.

WILLIAM ALLEN,
Acting First Assistant Collector, Panch Maháls.

AHMEDABAD.

Statement showing the Annual Income and Expenditure on account of Local Funds in the Ahmedabad Collectorate during the year 1879-80:—

District—AHMEDABAD.

	Rs.	a.	p.
Annual Income	... 98,199	0	0
Expenditure on Water-supply	... 14,219	10	4

Water-supply.—New works were executed during the year by the Civil Agency at a total cost of Rs. 3,816-5-5, as under—

Two wells (one with trough) in Dhandhuka Táluka.
Four wells and troughs in Dholka Táluka.
Two wells in Viramgám Táluka.
One drain to a tank in Dholka Táluka.

All the above works have been completed, except one well in Viramgám Táluka, which has been stopped on account of the water being brackish. A well has also been constructed by the Public Works Department for the use of the cross-road leading from the Kankria tank to the Shahallum road, and for the road leading from Astoria Gate to Shahallum at Ahmedabad, at a cost of Rs. 1,658-3-2, which

*Note.—Expenditure on Conservancy for Dohad Town has not been shown here, as it was incurred from Municipal Funds.

is unfinished. Similar works have also been repaired by the Civil Agency at a total cost of Rs. 7,925-0-8, as under—

2 Wells and troughs and one drain to a tank in Dholka Táluka.
2 Tanks in Dhandhuka Táluka.
7 Do. in Parántíj do.
1 Do. in Viramgám do.

New steps and stone steps in the inlet of the Kankria tank have been made by the Public Works Department at a total cost as under—Rs. 2,663 in 1878-79; Rs. 820 in 1879-80.

KARA'CHI.

Statement showing the Receipts on account of Local Funds and Expenditure on Miscellaneous Public Improvements during the year 1879-80.

	Rs. a. p.	
Income	87,804 1 5	* Bunds for the protection of villages and crops from floods in the Dádú Táluka.
Expenditure on Miscellaneous Public Improvements ...	* 270 15 6	

HYDERABAD.

Local Fund Circle—HYDERABAD COLLECTORATE.

Population	Males ...	399,233
	Females...	324,650
	Total ...	723,883

Annual Income	Rs.	1,04,261
Amount of the Receipts as shown in the Annual Local Fund Accounts for 1879-80 ...	„	1,24,874
Deduct amount of opening balance on the 1st April 1879	„	20,613
	Rs.	1,04,261
Expenditure on Conservancy	„	7,141

Water-supply.—There are 129 wells maintained out of Local Funds, and situated chiefly in towns and villages, but a few on roads :—

Táluka Kandiáro	11
„ Naushahro	8
„ Moro	7
„ Sakrand	20
„ Shahdádpur	23
„ Hála	15
„ Mirpur	8
„ Tando Alahyar	7
„ Guni	4
„ Mohbat Dero	9
„ Tando Bago	2
„ Badin	3
„ Hyderabad	12
Total ...	129

Rs. 53 were expended on the wells in 1879-80. Thirteen tanks belong to Local Funds; some of them with steps. They are mostly used for bathing, washing clothes, and are filled from inundation canals, and are cleaned out when necessary.

Táluka Kandiáro	1
„ Naushahro	1
„ Moro	2
„ Shahdádpur	5
„ Hála	1
„ Mirpur	1
„ Tando Alahyar	1
„ Badin...	1
	13

No expenditure was incurred on them during the year 1879-80.

Drainage.—There is nothing worth mention.

Cess-pools.—None.

Scavengering.—None.

Latrines.—None.

Urinals.—None.

Markets.—There is a market at Tando Bago, originally built from Municipal Funds, and now repaired from Local Funds, and its purchase by the Department is under contemplation.

New Works.—Protecting walls and troughs have been built to 3 wells in the Kandiáro Táluka at a cost of Rs. 200. One well has been built at Satardino Mangria, Táluka Kandiáro—cost Rs. 500. Rs. 5,400 have been paid to the Hyderabad Municipality in 1879-80 as a contribution towards the water works at that station.

C. J. BOULTON,
Collector and President, Local Fund Committee.

THAR AND PA'RKAR.

Local Fund District—THAR AND PA'RKAR.

Enumerated Population	... ...	Males ...	105,575
	... ...	Females ...	75,186
		Total ...	180,761

		Rs.	a.	p.
Annual Local Fund Income	...	27,784	9	2
Expenditure on Sanitation	...	3,028	10	11

Water-supply.—Thirty wells have been constructed in the several tálukas of this district, from time to time, at the charges of Local Funds. The following is a list of them showing the cost, in a lump sum, for each táluka:—

Táluka Umarkot	... 6	Wells ...	...	... Rs.	4,815
„ Khipra	... 7	„ ...	...	... „	4,350
„ Mitti	... 1	„ ...	...	... „	400
„ Dipla	... 9	„ ...	...	... „	3,500
„ Nagar	... 5	„ ...	...	... „	2,200
„ Sánghar	... 2	„ ...	...	... „	550
	30	„		Rs.	15,815

There are a large number of ancient tanks all over the district, and, at the time of the Márwár Famine, the Márwáris, who migrated to this district, were employed in clearing out and repairing many of them. One hundred and four tanks were repaired and cleared out in this way in the following tálukas at a total cost of Rs. 15,105:—

Táluka Umarkot	... 2	Tanks ...	...	... Rs.	500
„ Sánghar	... 1	„ ...	...	... „	200
„ Khipra	... 1	„ ...	...	... „	800
„ Mitti	... 42	„ ...	...	... „	3,405
„ Dipla	... 30	„ ...	...	... „	5,100
„ Nagar	... 28	„ ...	...	... „	5,100
	104	„		Rs.	15,105

Drainage.	Urinals.
Cess-pool.	Markets.
Scavengering.	Burial-grounds.
Latrines.	Cremation grounds.

No sanitary works falling under any of the above heads have been carried out in previous years at the expense of Local Funds. Before the introduction into Sind of the New Municipal Act, there was a Municipality in almost every town of any importance in Thar and Párkar, the total number being 13; while these Municipalities were in existence, all expenses in connection with sanitation was borne by them. Since their abolition the conservancy of these towns is attended to by the Panchaits.

New Works.—One well was completed during the year under report in the Cháchra Táluka. Five wells were commenced—2 in the Khipra Táluka and 3 in the Umarkot Táluka, the total estimated cost of all being Rs. 3,600. In addition to the above, a sum of Rs. 1,828-10-11 has been expended during the year in maintaining an establishment of 7 Vaccinators, and Rs. 1,200 have been contributed during the year towards the maintenance of Dispensary establishments, as follows, viz. :—

Khipra	Rs.	480
Mitti	„	360
Nagar	„	360
Total ...	Rs.	1,200

R. I. CRAWFORD, Major,
President, Local Fund Committee, Thar and Párkar.

SHIKA'RPUR.

Local Fund Circle—RATO-DERO.

Population	Males ...	17,913
	Females ...	14,926
Total ...		32,839

	Rs.	a.	p.
Income	6,632	7	5
Expenditure on Conservancy	149	5	4

Water-supply.—There are in all 3 wells constructed out of Local Funds.

One *at Bunguldero,* near the school, is used for drinking purpose; it has a reservoir and a trough for watering cattle attached to it; it has never been repaired from Local Funds since sunk; the Bunguldero townspeople execute necessary repairs to it.

One *at Nowadero,* near the travellers' bungalow, and is used for drinking purpose; it has a reservoir and a trough for watering cattle attached to it; it has never been repaired from Local Funds since sunk. Arzi Gunejo, who is in charge of the well, executes necessary repairs to it, and utilizes water for himself.

One *on Rato-dero and Sijáwal road,* near Rato-dero town; it is useful to the travellers passing by it; cattle are also watered there. Fazulshah Syed, who has a "dairio" (rest-house) near it, and is in charge of it, executes necessary repairs.

Drainage, Cess-pools.—None.

Scavengering.—No sweepers are entertained from Local Funds; the village raj make their own arrangement to keep their villages clean.

Latrines, Urinals, Markets.—None.

Burial-grounds and Cremation Ghâts.—None maintained at the cost of Local Funds.

Local Fund Circle.—SIJÁWAL.

Population	Males ...	8,345
	Females ...	6,762
Total ...		15,107

	Rs.	a.	p.
Income	4,515	12	7
Expenditure on Conservancy	84	0	0

Water-supply.—There are 2 wells constructed from Local Funds; 1 at Sijáwal and 1 at Gospur; both are worked by wheels; the one at Sijáwal has a reservoir and a trough attached to it. They are used for drinking purpose. Cattle-watering is also allowed, the water is good, and the supply never fails. Besides these there are 23 private wells, which, at time of construction, received grants-in-aid from Local Funds; all are worked by wheels, and are used for drinking and bathing purposes; in 16 the supply is good; in 1 the supply fails sometimes;

in 5 the water is rather saltish, and the supply fails sometimes, and in the remaining 1 the water has a slight smell, but is good, and the supply never fails.

There is a tank with a flight of steps, constructed from Local Funds, at Sijáwal; it is used for bathing in the inundation season.

The private wells mentioned above are situated in the villages given below:

Mir Mahomed Jamali 1, Arzi Bhuto 1, Gul Mahomed Chandio 1, Gulam Mahomed Laghari 1, Walan Jamali 1, Korai 1, Budho Jamali 1, Manik Kureshi 1, Fatahal Chodho 1, Jumo Chodho 1, Amirbux Jamali 1, Mehrabkhan Chandio 1, Gharir 1, Sehjo 1, Gossang 1, Wali Mahomed Bhati 1, Giando Luk 1, Shebhegkhan Drukhan 1, Mehrun Chandio 1, Leemo Junejo 1, Allehwarajo 1, Junejo 1, Giand 1, Rasulabad 1, Bahadurm Bhund 1.

Drainage, Cess-pools.—None.

Scavengering.—No sweepers are entertained at the cost of Local Funds; the village raj make their own arrangements to keep their villages clean.

Latrines, Urinals, Markets.—None.

Burial-grounds, Cremation Ghâts.—None maintained from Local Funds.

Local Fund Circle.—LÁRKHÁNA.

Population	Males ...	37,675
	Females...	30,724
	...	68,399

	Rs.	a.	p.
Income	15,403	11	9
Expenditure on Conservancy ...	228	0	0

Water-supply.—There are 2 wells for drinking, constructed out of Local Funds, worked by wheels. Besides these there are 18 private wells, which, at time of construction, received grants-in-aid from Local Funds. They are all worked by wheels, by bullocks, and occasionally by people, and are used for drinking purposes. Watering cattle is also permitted in separate troughs; they have never been cleared since sunk; the supply never fails, and the quality is good. Nineteen wells have each a reservoir attached to it for bathing; there are no tanks constructed from Local Funds. The 2 Local Fund wells are situated at Lárkhána town—one near the travellers' bungalow, and the other near Police lines; the other private wells are situated in the following villages:—

Khairpur 1, Rashid Wagan 1, Choondia 1, Peer Yoosif Sháh 1, Ghogaro 1, Talbani 1, Newgote 1, Yakrio Mahesur 1, Sharifani 1, Karamali Kanasro 1, Mahomud Dero 1, Dedur 1, Naich 2, Rehmat Khukhrani 1, Biro Chandio 1, Sachedino Kulhoro 1, Bugti Balochan 1.

Drainage, Cess-pools.—None.

Scavengering.—No sweepers are maintained from Local Funds; the village raj make their own arrangements to keep their villages clean.

Latrines, Urinals, Markets.—None.

Burial-grounds, Cremation Ghâts.—None maintained at the cost of Local Funds.

Local Fund Circle—LABDARYA.

Population	Males ...	17,081
	Females...	14,120
	Total ...	31,201

	Rs.	a.	p.
Income	8,372	14	1
Expenditure on Conservancy	164	0	0

Water-supply.—There are 4 wells for drinking purpose constructed from Local Funds—1 at Bákráni, 1 at Bungi Kulhoro, 1 at Gujhar, and 1 at Mitha Arijo; all worked by wheels. Two of them have reservoirs attached; watering cattle is also permitted; they have never been cleared since sunk. The supply never fails; the quality is good; washing clothes is not allowed. The Nára flows to north-

west close to Bákráni head-quarter of the Labdarya Táluka in the inundation season, where bathing, washing clothes, and cattle-watering are allowed.

Drainage, Cess-pools.—None.

Scavengering.—No sweepers are entertained from Local Funds; the village raj make their own arrangements to keep their villages clean.

Latrines, Urinals, Markets.—None.

Burial-grounds, Cremation Ghâts.—None maintained at the cost of Local Funds.

Local Fund Circle—KAMBAR.

Population	Males ...	38,787
	Females ...	31,024
	Total ...	69,811

	Rs.	a.	p.
Income	17,021	13	0
Expenditure on Conservancy	104	0	0

Water-supply.—There is one well at Kambar constructed from Local Funds. It has a reservoir attached to it, and is worked by wheels. There are 8 wells of private persons, which received, at time of construction, grants-in-aid from Local Funds. Two are worked by wheels and have reservoirs attached to them, and the remaining 6 are draw-wells; all are used for drinking purpose. Cattle-watering and washing clothes are also permitted. They have never been cleared since sunk; the supply never fails, and the quality is good; the private wells are situated in the following villages:—

Rowti 1, Ber 1, Boohur 1, Pawhara 1, Bhirmi 1, Karara 1, Shaho 1, Chahi 1.

Drainage, Cess-pools.—None.

Scavengering.—No sweepers are maintained at the cost of Local Funds; the village raj make their own arrangements to keep their villages clean.

Latrines, Urinals, Markets.—None.

Burial-grounds and Cremation Ghâts.—None maintained at the cost of Local Funds.

Deputy Collector, Lárkhána.

Name of Local Fund Circle.	Enumerated Population.		Water-supply.
	Males.	Females.	
Nasirabad	19,721	15,556	5 Wells and 2 steps to Chilowah, close to Nasirabad, specially reserved for bathing purposes. One for males and one for females.
Total ...	35,277		
Mehar	11,728	10,905	3 Wells. No tanks. No steps.
Total ...	22,633		
Tigar	15,908	13,115	2 Wells and 2 tanks—1 with steps and 1 without steps. They are in good repair; are cleaned out periodically. They are fed by canals.
Total ...	29,023		
Kakar	25,259	21,184	7 Supply cisterns, without taps; 7 wells; 1 step to Nárowáh.
Total ...	46,443		

New Works.—New road from Bhagna station to Seeta road.

Deputy Collector of Mehar.

Statement showing the Population, Annual Income and Expenditure on Conservancy in Local Fund Districts and Circles during the year 1879-80.

Name of Local Fund Circle.		Population.	Annual Income.	Expenditure on Conservancy.
			Rs.	Rs.
Khándesh	Nandurbár	48,562	6,859	500
	Sháháda	37,679	8,594	879
	Taloda...	32,112	3,589	1,000
	Dhulia...	53,493	8,656	.....
	Pimpalner	57,186	5,082	51
	Virdel	65,402	17,318	1,561
	Shirpur	38,807	8,139	1,900
	Chálisgaon	44,568	10,786	362
	Erandol	76,838	13,451	1,151
	Amalner	76,020	13,284	609
	Páchora	84,880	18,277	1,354
	Chopda	56,368	10,441	1,590
Násik	Násik	90,271	9,026	281
	Málegaon	65,000	11,430	700
	Nándgaon	27,049	3,891	500
	Báglán...	57,741	8,374	750
	Kalvan	37,921	5,110	150
	Sinnar...	64,872	10,500	550
	Igatpuri	57,732	5,030	190
Poona	Poona District	.....	1,00,589	5,456
Sátára	Sátára...	105,463	9,869	.....
	Wái	82,341	7,533	.....
	Koregaon	74,706	9,877	.....
	Jávli	55,952	3,736	1,250
Surat	Surat District	607,087	1,59,609	46,304
Kaira	A'nand	149,952	24,112	6,615
	Mehmadabad	85,754	14,682	1,212
	Mátar	78,673	21,152	4,070
	Thásra...	85,601	11,100	1,140
	Kapadvanj	86,742	8,535	2,400
	Nadiád	151,483	25,241	2,637
	Borsad	144,528	23,186	4,895
Panch Mahálś... ...	Godhra	74,014	20,065	.....
	Kálol	40,505	5,592	144
	Dohad	63,513	8,177	.....
	Hálol	25,926	7,743	96
	Jhálod	36,785	2,738	96
Ahmedabad	Ahmedabad District	.....	98,199	14,220
Karáchi	Karáchi District	.....	87,804	271
Hyderabad	Hyderabad	723,883	1,04,261	7,141
Thar and Párkar ...	Thar and Párkar	180,761	27,785	3,029
Shikárpur	Rato-dero	32,839	6,632	149
	Sijáwal	15,107	4,516	84
	Lárkhána	68,399	15,404	228
	Labdarya	31,201	8,373	164
	Kambar	69,811	17,022	104
	Total ...	4,143,527	10,11,369	1,15,783

SECTION VI.

GENERAL REMARKS.

In the Report for 1879 I wrote at some length on the general questions with which the Sanitary Department is more immediately concerned; so, on this occasion, nothing more need be said about them, except when they apply to particular localities.

Under the exigencies of the Afghan war the Deputy Sanitary Commissioners of the Southern Deccan, the Konkan, and Sind were detailed for Military duty beyond the frontier; nor did they rejoin their appointments for many months. The districts were consequently without the benefit of their trustworthy supervision, and the want of this was much felt, as it always must be.

The most important sanitary work of the year is the drainage scheme for the City of Bombay, but it would be premature to speak of it now, as it is still being carried out. Another great work, for the same place, is the service reservoir on Malabár Hill for those areas supplied with Tulsi water.

During the hot season of 1879 the condition of the Tulsi water-supply had been getting worse and worse, and in May it was such, that, in consequence of a representation from the Military authorities, the matter was brought to the special notice of Government.

The Tulsi water-supply.

There had been an unusual and an increasing amount of sickness amongst the Troops at Colába: not enough to excite alarm, but quite enough to show that some unusual cause was at work, and, in casting about for it, attention was directed to the water-supply. This comes from Tulsi, and all used for drinking is passed through the Macnamara filters; but for some time its condition had been most unsatisfactory: it was turbid and tainted, and the Brigadier-General asked that it might be examined. On analysis it was found to be so loaded with impurities—probably of vegetable origin—that it was at once reported as unfit for drinking. A second analysis made in June, after the first rain had fallen, was still more unsatisfactory. (See Appendices **A** and **B**.) This, however, may have been due to the washing of the catchment area at Tulsi; though more probably it was owing to want of care in overhauling dead-ends, and sludge cocks. I say this because, at other points, it ran clear from the taps, and I believe I am right in saying that the Impounding Reservoir and the Distribution are separate and independent charges.

In adducing the condition at Colába I spoke to a fact, but I know, by hearsay, that it was much the same everywhere else: in fact the failure of the supply has been a public scandal, and the unwelcome quality has been a necessary consequence of the diminished quantity. Amongst all classes, but more especially amongst the native community, there was a feeling of bitter disappointment at the supposed failure of the Tulsi scheme; and there was a very wide-spread distrust lest the wells within the city should be sewage-polluted by the Drainage scheme now being carried out.

Before speaking of the quantity of water impounded at Tulsi, and the amount passed out through the tower, it may be as well to state what amount the highest authorities at Home consider sufficient for all purposes. In Humber's great work on the water-supply of Cities and Towns, chapter IV., he says, it is customary to divide the gross consumption into—

1. That for ordinary domestic use;

2. That for manufacturing, trade, and general purposes taken collectively; and under these two heads he gives a table (Appendix **C**) showing the actual consumption in various towns. In London, supplied by eight different Companies, and under the intermittent system, the average is 26 gallons for domestic use, and 5 for general purposes; a total of 31 gallons per diem per head of population. In 15 other towns, also on the intermittent system, and ranging from 46·4 to 10,

the average total is 24·64; and in 14 with constant service, ranging from 53 to 14, it is 24·62. These last towns average 19 for domestic use, and 5 for general purposes. Taking three representative towns they show as follows :—

Towns.		Population.	Supply for		Total Supply.
			Domestic use.	Trade and general purposes.	
In 1876	London	3,378,000	26·0	5·0	31·0
	Liverpool	625,000	21·5	2·6	24·1
	Manchester	685,000	14·0	7·0	21·0
		4,688,000	means 20·5	4·8	25·4

There are also given the results of inquiry instituted in London, in 1850, by Mr. Haywood, the Engineer to the City, and Mr. Simon, then Health Officer, and from these it appears that—

1. For first class houses, of from 12 to 20 rooms, and with every convenience, an average of 12·87 gallons per head per diem was sufficient.
2. In second class houses, but still having water closets, the consumption was 7·41 gallons.
3. For model lodging houses, with every necessary accommodation, 6·5 gallons were required.
4. In houses of the poorer class about 3 gallons.

A mischievous scare was started, that water-closets under the new drainage system would necessitate an enormous increase to the daily consumption, but it was exposed by Mr. Rienzi Walton in his Report on the Bandarwada Service Reservoir project. Quoting Mr. Rawlinson, he says :—

"In some districts water closet valves are regularly kept open, so as to run the water to waste, as it is supposed to sweeten the closet. This is only *wasting* water to no useful purpose, and in all well regulated water works such waste will be punishable by a money fine. *Closets in which there is a bad stench require ventilation; the house drain also may require ventilation.*"

It is generally admitted that from 2 to 3 gallons per head per diem is sufficient for any closet, and this is included in the amount for domestic use. It is also found that an average of one or two gallons per head suffices for street watering, extinction of fire, and in some places, chiefly where water-closets are few in number, for flushing sewers. With regard to street watering it is pointed out that 400 square yards of macadamized road, and 600 square yards of paved road, may be efficiently watered—so as to lay the dust—with 224 gallons of water. Mr. Rawlinson thinks that 15 gallons per diem per head of population, with constant high pressure service, should suffice for any town, and for all purposes; and this may be divided into 10 gallons for domestic use, and 5 for trade, &c. For Bombay let us take 15 for domestic use, and 5 for general purposes, a total of 20 gallons per diem per head of population, and by this amount let us gauge the capability of the Tulsi Lake.

By Mr. Rienzi Walton's diagram of the lake (Appendix **D** and Statements, page 9,) it may be seen, that from the contour level of its waste weir to its lowest inlet—a depth of 47·14 feet—the total capacity is 1,479,469,322 gallons, but of course the whole of this amount is not available for supply. The depth reached last May gave water of a quality unfit for drinking, so practically the lake has an upper portion pure and efficient and a lower more or less impure and sedimentary. In such impounding reservoirs as Vehár and Tulsi, there must necessarily be a line below which it is not expedient that the level shall be lowered, and at Tulsi the present line will probably be between 425 and 420 on the gauge. But there are grounds for assuming that it will sink lower and lower in each succeeding year until it reaches a normal limit. This remark applies to Tulsi as an independent supply, for as an auxiliary to Vehár it might all be drained off. On the 15th March 1879, the level of the lake then being 439

on the gauge, the water was first turned on to Bombay, but hardly had it been received, when it was universally and justly condemned. In speaking of the alarm it excited, the Health Officer—Dr. Weir—said—

"The water at first absolutely stank; it was of a dirty green colour, loaded with vegetable matter, in globular masses, in suspension, as well as held in solution in the water, and emitting a sickening dead-leaf odour. The alarm was not without good grounds. The albuminoid ammonia, the representative in this case of organic pollution of vegetable origin, reaching the enormous limit of 0·75 parts per million * * * * *. Up to the end of March the foul condition of the water might with some reason be partly attributed to the new pipes; it had however then been running sufficiently long to have scoured all surface impurities from the pipes, and it was certain the water would be in no better condition before the monsoon; on the contrary, it would be more impure as the supply was drawn of, and the water sank in the lake, the impurities being condensed. In April I drew special attention to the fearful state of the water from Tulsi, and it was a question whether public notifications should not be issued, pointing out the absolute necessity of allowing the water to settle, and of straining, and filtering it. The vegetable impurities in the water were so great that ordinary filters would not act; they required to be cleaned so frequently that they were not serviceable. And moreover I have found it difficult to preserve the ordinary carbon filter apparatus free from the offensive dead-leaf smell of the water. On the 30th April a sample collected from the surface of the lake yielded free ammonia 0·70 and albuminoid ammonia 0·61: a sample taken at the same time from between 40 and 50 feet below the surface of the lake yielded free ammonia 0·25 and albuminoid 0·40 parts per million; the organic matter in the water was in a state of active decomposition, of which the enormous quantity of free ammoniacal compounds were the product. The sample taken from the surface was of a light sherry colour; it had an enormous quantity of vegetable matter in suspension and exhaled a strong musty odour. On the 14th May a sample collected from the supply pipe in the Municipal Offices yielded free ammonia 0·45 and albuminoid ammonia 0·75 parts per million. A sample collected from the surface of the lake near the outfall, on the 6th June, yielded free ammonia 0·3 and albuminoid ammonia 0·6 parts per million; and a second sample collected from the centre of the lake on the same date yielded free ammonia 0·4 and albuminoid ammonia 0·7 parts per million; both these samples had a light brown colour. A sample collected on the 19th June from the pipe in the Municipal Offices yielded free ammonia 0·53 and albuminoid ammonia 0·57 parts per million. Between this date and the 2nd July the water changed completely in character; a sample collected on that date yielded free ammonia 0·03 and albuminoid ammonia 0·17 parts per million. In August the condition of the water again caused anxiety, it was of a milky colour, and on standing, a slight florescent deposit was formed. A sample I examined from a main in Girgaon, yielded free ammonia 0·35, and albuminoid ammonia 0·34 parts per million; it contained 0·9 grains per gallon of chlorine, and the solids had risen from the normal amount of between 6 and 9 grains per gallon to 16 grains per gallon. The milky appearance of the water was in my opinion due to finely divided sand washed down in large quantities from the hills around the Tulsi basin by the heavy rainfall. In October samples of the Tulsi supply yielded 0·08 and 0·10 parts per million of albuminoid ammonia; the water was now well within the limits of wholesomeness, and caused no further anxiety during the year."

With regard to the amounts of free and albuminoid ammonia, that is permissible in a water-supply, I quote from Wanklyn—

"Much albuminoid ammonia, little free ammonia, and almost entire absence of chlorine, is indicative of vegetable contamination. Such water is very injurious to health. If the albuminoid ammonia in water amounts to 0·02 or to less than 0·05 per million, the water belongs to the class of very pure waters. When the albuminoid ammonia amounts to 0·05 then the proportion of free ammonia becomes an element in the calculation, and I should be inclined to regard with some suspicion a water yielding a considerable quantity of free ammonia along with 0·05 parts of albuminoid ammonia per million. Free ammonia however being absent, or very small, a water should not be condemned unless the albuminoid ammonia reaches something like 0·10 per million. Albuminoid ammonia over 0·10 per million begins to be a very suspicious sign, and over 0·15 ought to condemn a water absolutely. The absence of chlorine, or the absence of more than 1 grain of chlorine per gallon, is a sign that the organic impurity is of vegetable origin; but it would be a great mistake to allow water highly contaminated with vegetable matter to be taken for domestic use."

Judged by the results of the Health Officer's analysis, and tested by Wanklyn's rules, it must be admitted that the first supply was impure to an extent that was dangerous. But as in the very worst cases there is always something to be said for the defence, so here there were extenuating circumstances. In the first place there was the decaying vegetation of a newly submerged area; and there was the unavoidable and accumulated impurity attendant upon the work. For want of material sufficiently near, the whole area of the lake had to be dug

up to supply the earth for the dam and the puddle trench, and there was very soon trodden out a layer of the finest and foulest dust from 6 to 12 inches deep; this of course was taken up at the first filling. There was also the unfortunate stoppage of the works for upwards of three years to discuss at intervals the ultimate form they were to take; and during this period the lower level was one large stagnant pond, in which vegetable organisms had unchecked development and growth. The joint influence of these three causes will go far to account for the impurities, but happily they can never occur again. The Health Officer says, that, after October, the quality of the water caused no further anxiety, and in the current year it was not until the level had been lowered to 422 on the gauge, that the old and unwelcome conditions again appeared. In May the analysis of the supply to the troops at Colába yielded 0·07 free ammonia, and 0·23 albuminoid ammonia per million parts, so evidently the old impurities had not been eliminated. But whereas in 1879 they were apparent on the surface level—439 on the gauge—the supply in 1880 ran clear down to 422; so for a depth of 17 feet the entire body of water had cleared and sweetened, and this leads me to think that the limit of purity will sink lower and lower with each succeeding monsoon. Indeed this year the impurities might have been avoided. At 423 on the gauge the contour level gives a capacity of 1,191,000,000 gallons, or 3,263,014 gallons a day throughout the year; and as the numbers to be supplied are only 158,658, the apportionment was 20·6 gallons per head per diem. But more important than the *apportioned supply* for a year is the *actual consumption* between monsoon and monsoon, and this was carefully gauged. From the 21st September 1879 to the 13th June 1880, the total quantity taken from the lake was 1,387,369,670 gallons; an average of 5,196,890 gallons daily, and enough to give every one 32·7 gallons. Instead, however, of keeping the level at 423, it was lowered to 413·20, and the daily drawings were frequently six, and seven, and eight million gallons, and on one occasion nearly nine. It is hardly necessary to say that these amounts were not received, not one-tenth probably, and this brings me to the important question of *waste*.

A notable instance of the extent to which waste may occur is one which would be incredible were it not taken from Parliamentary returns: it is given in Neville's Manual of Hydraulics (foot-note p. 357). In December 1874, whilst the daily supply to the city of Dublin was 7,266,000 gallons, the waste was 6,631,000! In 1857 an experiment was made to see what the worst would be if the public were at liberty to waste any quantity of water they chose. For six weeks the town of Woolwich was given an unlimited supply, under constant service, just to see what they would do. It was given without notice, without any alteration in ordinary arrangements, and without inspection; and at the end of the time it was found that the *extra* quantity delivered from the works had been one million gallons per diem, or 148 gallons per head per diem. A somewhat similar experiment, but on a smaller scale, was made in 1856 at Morden Grove, Greenwich. A block of 20 houses was placed under constant service. The fittings were examined and a meter was attached to the common supply pipe. There were no inspections, and they did what they liked with an unlimited supply, and at the end of the year the meter was again read; it showed that the quantity to each house had averaged close upon 2,000 gallons per diem or 285 gallons per head. At Glasgow the average daily *waste* by 135 families, from badly constructed, or imperfectly fitting kitchen taps alone, amounted to 108 gallons per family, or 20 gallons per head per diem. In one case while one man wasted nothing, another had run down his sink stone, for no useful purpose, no less than 850 gallons per day. The special question of waste has been dealt with by Mr. Deacon, C.E., in a paper read on the 27th April 1875, and published in the Proceedings of the Institution of Civil Engineers, vol. XLII., p. 129. A resumé of this paper is given by Mr. Rienzi Walton in his report on the Bundarwada service reservoir project, but that even is too long to be more than very briefly noticed. It is pointed out that waste is either—

1. Continuous, or hidden—from pipes and cisterns either below or above ground.

2. Discontinuous, or superficial—from defective fittings above ground, or from taps and valves temporarily left open.

In addition there is often much waste in the application of water to useful purposes, but though this should not be encouraged, it is not deemed expedient to take active measures to restrain it. It is said that out of every 100 gallons of water passed into a main in 24 hours under constant service, 70 run to waste, and 30 are drawn off for use.

Coming now to practice, there is the case of Norwich. In 1850 the Norwich Water Works Company obtained an Act which bound them to give a constant supply, but its introduction was not promising, for the increased pressure burst the mains, and they had to be renewed at considerable outlay. It was then found that their powers under the Act were insufficient, and matters went from bad to worse until 1859 when, the expenditure being 40 gallons per head per diem, they were compelled to revert to the intermittent system. In the same year, however, by Mr. Hawksley's advice, they obtained an Act "to enable them to prescribe the nature in detail of all fittings and pipes, and the work in connection therewith, and to interdict the use of any existing fittings and pipes, which in their judgment might tend to waste." The rules and regulations are most explicit even to the minutest details, and they were strictly enforced. They are arbitrary, and their first introduction must have been irksome, as all rules must be which demand that individual interests be subordinated to those of a community, but in the end there was the most complete success: the consumption was reduced from 40 gallons per head per diem to 15 gallons, and constant service was restored. The rules vary in different places, but their general tenor is thus epitomized :—

Proper sizes and weights of lead pipe, tinned inside if desirable, and laid at proper depths. The best ball cocks, screw down stop-cocks, and draw off cocks, made to gauge, and tested.

Waste preventing cisterns for water-closets, with stated sizes of down pipes and spreader, satisfactorily fixed.

No waste pipes to cisterns allowed, unless in a position where, any waste occurring, the closet could not be used, or where the waste would be annoying, and easily observable.

No connection to be made with any fitting until examined and approved by the Company's representative.

All supplies, where there is a liability to waste water, to be served by meter.

The Company to execute any work, and repairs desired by their customers, plumbers being also allowed to do work under the Company's regulations.

At Manchester and Liverpool the results have been equally satisfactory, and at Liverpool, in addition to these rules, they have established a testing and stamping office which is self-supporting. In this office "a Superintendent, with an assistant and two boys are employed, whose duty it is to examine each fitting superficially and to ascertain that it apparently works satisfactorily. If a tap, or ball cock, to place it in jaws provided with the means of supplying water at a pressure of 300 lbs. per square inch. If a regulating cistern, or service box, to ascertain by actual trial with water that the valves work truly, and that the delivery valve passes the two-gallon flush in less than 15 seconds. To weigh, gauge, or examine every part of each fitting including valves, valve seats, washers, valve rods, and, in the case of alternating valve regulating cisterns, to see that the valves have the prescribed lift and that the lever has the prescribed play between the respective lifts. And to stamp those fittings only which are in all respects in conformity with the samples kept for exhibition." These rules were assented to, and signed by nearly every plumber in Liverpool, and their working has proved satisfactory to suppliers and consumers, employers and employed. Although the Corporation had no power to prevent work being executed by unauthorised plumbers, the advantage to consumers in employing a tradesman whose work was guaranteed was so well known, that unauthorised plumbers were but very rarely engaged. In addition to these measures of precaution there is the waste water meter, and rigid house-to-house inspection, so the safeguards now are well-nigh complete.

Such are some of the precautionary measures adopted in England, and I pass now to the procedure in Bombay. It is a recorded fact, that between the past and the present monsoon, enough water was passed out of the lake to admit of every one having 32·7 gallons daily; and yet, with an apportionment greater than that for London, or Liverpool, or Manchester, everything went wrong. The arrangements for distribution were exasperating: the quality was absolutely dangerous to health: the quantity was so limited, that there was positive want: want the result of waste either below the ground or above it. By the Engineer's report there were 72 bursts in minor mains, and these presumably are exclusive of blown joints, so the loss here must have been considerable; but whatever it was, it is as nothing to that by the perpetual run, and drip, from house taps. As regards these, the sooner the position is recognized the better for all concerned, and especially should it be recognized, that *waste will never be really controlled until ferrules, service pipes, taps, and fittings generally have been renewed under organized, and rigid house-to-house inspection, and until the Corporation has legal powers to dictate the nature of every detail.* In the early days of the Municipality extension of the water-supply was a prime object, and it was sought to be promoted by relaxations in the ordinary rules for house connections. In those forcing days if the flow failed to satisfy the consumer, his complaint was only too often turned by the concession of a larger ferrule, and service pipe; and without a doubt much of the trouble of to-day is due to those ill-timed concessions. The Engineer having determined the size, and the ferrule having been fixed departmentally, all else was done by any so-called plumber, whose name was on the office list, and the turncock was supposed to see that the office directions were complied with. As there have never been any rules regarding indoor taps and weight of piping per running yard, it is not very clear what the directions could have been, nor could they have applied to these two essential points. Now in all Bombay there is not one native master plumber who understands the principles of the craft, and the knowledge of the journeymen begins and ends with a keen appreciation of prices. To them all taps are the same, all pipes are alike, except that one costs so much and another so much. They know that pipes are of different sizes and of different weights, but in their minds the weight is associated with price, not pressure, and for anything beyond price they neither care nor think. These are the authorized plumbers of the office list, and these are the men who have made upwards of 12,000 house connections. It was bad enough under Vehár pressure, but that of Tulsi is like the driving of a Nasmyth hammer, for at times it is 150 lbs. to the square inch, the average in Bombay boilers being 60 or 80.

At certain meetings of the Town Council and the Corporation there was a tendency to depreciate the value of what was termed "the Tulsi tea cup," and doubts were expressed as to the sufficieney of its supply, more especially under the exigencies of the new drainage scheme. Any one who chooses can satisfy himself, that between rains, and rains, the daily supply is equal to 28 gallons per head. This is absolute fact, not individual opinion, and it is also a fact that in many manufacturing towns at Home a less quantity meets all requirements. These two facts ought to convince the most sceptical as to the question of sufficiency. As regards the notion that the new drainage scheme, with its closets, will necessitate an increased supply, we have it on the authority of the most eminent Engineers in England, that with properly constructed flushing chambers at the heads of branch sewers, the expenditure for effective flushing, is one quart per head per diem.

As a first step towards preventing the recurrence of waste like that of last season, it is absolutely necessary to take stock of the existing appliances for distribution, and to this end everything should be overhauled from the inlet tower to the terminal taps, and for Vehár as well as Tulsi. Detailed returns should be submitted giving the fullest information upon the following points:—

1. *Ferrules.*—Description, size issued, size in use.

2. *Service pipes.*—Diameter, weight per running yard, especially for the Tulsi district.

3. *Taps.*—Description, condition.

Mr. Rienzi Walton should be requested to state in detail what measures he suggested to prevent the waste predicted in his Report on the Bundarwada Service Reservoir project; and the Municipal Commissioner should be asked to state in detail what steps were taken to give effect to those suggestions, and why they failed. He should be asked to say whether Guest and Chrime's high pressure stop ferrules are in use in the Tulsi district, and whether the taps there are Guest and Chrime's high pressure, loose valve, screw down, and whether the service pipes are there required to be of a greater weight per running yard than in the Vehár district. Until there is full information upon each and all of these points no practical remedies can be suggested beyond those of a general nature.

As regards the daily allowance of 28 gallons per head there is this to be said. By the Census of 1872 the total of houses was 27,617, and classing them, there were 3,735 mere thatched huts, 10,009 ground-floor only, and 6,633 with two floors; so if we exclude bungalows there are some 20,000 out of the 27,000 of a class to which a daily average of 3 gallons per head would be ample. And it will be much the same if we take the population. The thousands in cotton mills and presses, in factories and foundries, and warehouses, at the Docks, and Basins, and Bandars, the swarms of street coolies, the journeymen of all kinds, the day-labourers in public and private employ, the bázár idlers, the mendicants, the vagrants, the floating population, and last and least the children. Taken collectively they are about 400,000, and their daily average expenditure of water cannot be more than one gallon per head: in fact very little more than the quantity they drink.

As regards the chances of the wells being polluted by the new drainage scheme the very aim and end of all drainage, worthy of the name, is to prevent foul soakage into the sub-soil. In Bombay this soakage is perfectly appalling, but it will now be intercepted, and carried away in *water-tight* lines of pipe drains; so with a cleaner sub-soil the wells should be purer.

At one of the recent discussions there was a talk of covering the Malabár Hill Reservoir filter beds with wire gauze, and the necessity for covering in the reservoir itself seems to have been less fully recognised. It is of course advisable to guard against the chances of pollution from the adjoining Towers of Silence, but I venture to point out that the object in covering reservoirs is to keep the water at a temperature at which the spores of the *algæ* may not be developed. These spores are not removed by filtration, and if, in the clear water basin they be exposed to the heat of a Bombay sun there will be a rapid development, and extension of vegetable organisms. Both at home and abroad it has been found, that covering in the reservoirs has checked this growth, and on these grounds it is specially advocated a light bed of earth, and a flower garden, would be the most effective covering.

At Tulsi a portion of the gathering ground is private property subject to no stipulations as to the uses to which it may be put, and it is used for grazing. I need hardly say that the whole of it should be acquired, or guarded.

In Appendices **E** and **F** I have given verbatim the Norwich provisions for the prevention of waste, and I would again urge, that *the waste in Bombay will never be really controlled until the Corporation has legal powers to dictate the nature of all details as to house fittings.*

In next year's report I hope to be able to say, that these suggestions have been carried out; and that their adoption has put an effectual stop to the enormous waste by leakage, and to the groundless alarm as to the failure of the supply.

APPENDIX A.

Results of the Examination of two Samples of Tulsi Water from the Infantry Barracks at Colába.

A—From an iron tank near the Quarter Master's Store-room.

B—From a pipe in the Infantry Barracks (forwarded by the Assistant Quarter Master General in three corked bottles, with his letter No. 4572, dated 26th May 1880.)

	A.	B.
Total solids in grains per gallon	6·3	6·3
Chlorine do. do.	1·26	1·26
Free ammonia in parts per million	0·07	0·08
Albuminoid ammonia do.	0·23	0·24

Sediment—

A—Scanty, vegetable debris, confervæ, monads.

B—Copious, vegetable debris, confervæ, monads paramæcia.

J. A. DESOUZA,

Travelling Water Analyst, Sanitary Department.

Mátherán, 1st June 1880.

APPENDIX B.

Results of the Examination of a Sample of Filtered Tulsi Water from the European Infantry Barracks at Colába.

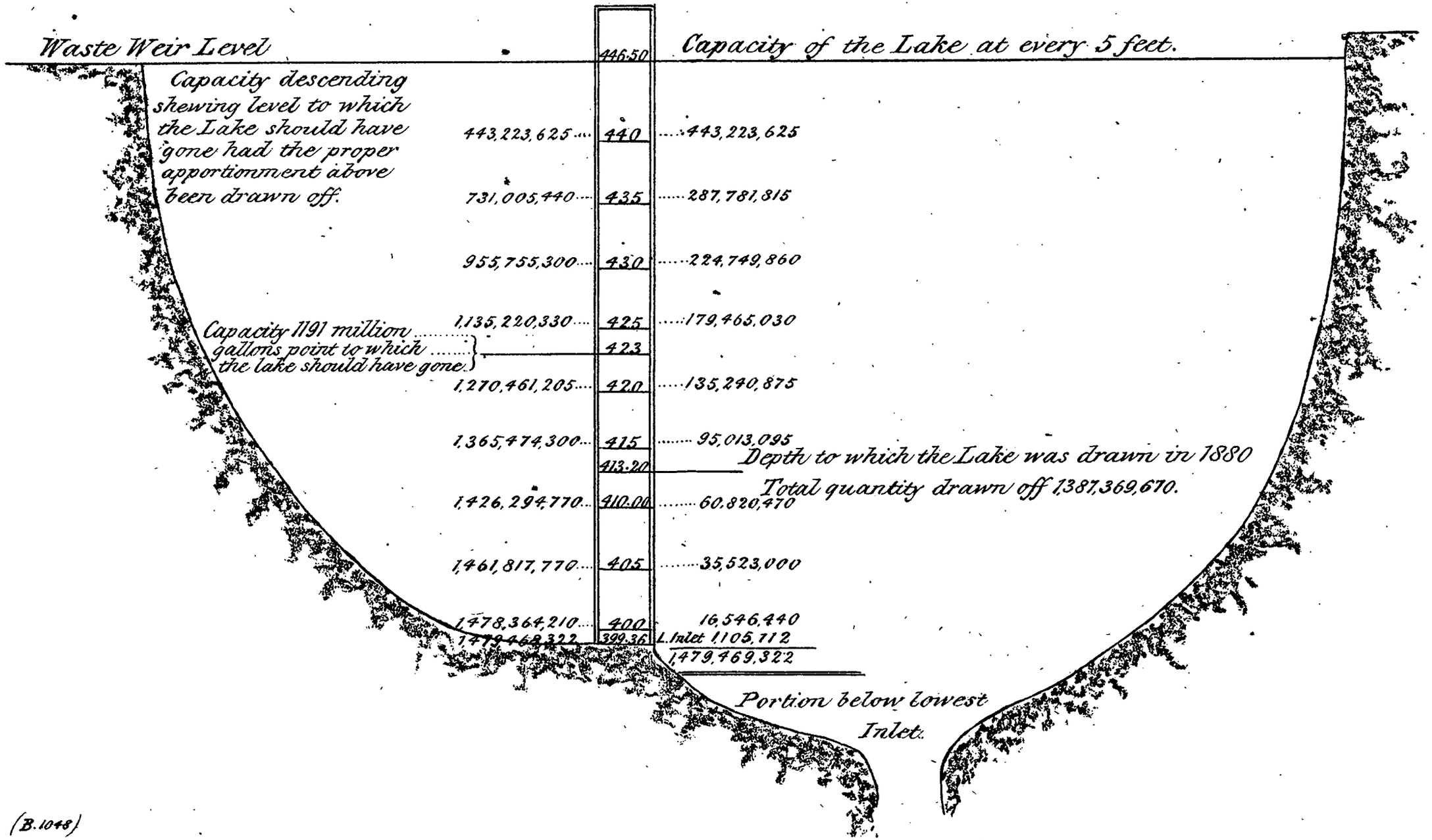
Examined on 29th June 1880.

Total solids in grains per gallon...	5·6
Chlorine do. do.	1·1
Free ammonia in parts per million	0·05
Albuminoid ammonia in parts per million	0·15

Sediments—very scanty, vegetable debris, a few monads.

APPENDIX C.

Name of Town or District.	Population.	Consumption per Head per Day.		
		Domestic.	Trade and General.	Total.
Intermittent Service.		Gallons.	Gallons.	Gallons.
London: District supplied by—				
New River Company	800,000	23·5	5·5	29·0
East London Company	750,000	20·0	6·5	26·5
Grand Junction Company	288,000	33·0	3·8	36·8
Chelsea Company	200,000	36·0	3·25	38·25
West Middlesex Company	290,000	28·0	2·3	30·3
Southwark and Vauxhall Company ...	480,000	25·0	7·3	32 3
Lambeth Company	290,000	33·0	2·5	35·5
Kent Company	280,000	27·0	0·88	27·88
Average ...	3,378,000	26·0	5·0	31·0


Gauge.
Waste Weir Level
446.50
Capacity of the Lake at every 5 feet.
Capacity descending shewing level to which the Lake should have gone had the proper apportionment above been drawn off.
443,223,625
440
443,223,625
731,005,440
435
287,781,815
955,755,300
430
224,749,860
1,135,220,330
425
179,465,030
Capacity 1191 million gallons point to which the lake should have gone.
423
1,270,461,205
420
135,240,875
1,365,474,300
415
95,013,095
Depth to which the Lake was drawn in 1880
413.20
Total quantity drawn off 1,387,369,670.
1,426,294,770
410.00
60,820,470
1,461,817,770
405
35,523,000
1,478,364,210
400
16,546,440
1,479,468,322
399.36
L. Inlet 1,105,112
1,479,469,322
Portion below lowest Inlet.

(B.1048)

Name of Town or District.	Population.	Consumption per Head per Day.		
		Domestic.	Trade and General.	Total.
Intermittent Service—continued.		Gallons.	Gallons.	Gallons.
Liverpool	625,000	21·5	2·6	24·1
Birkenhead...	40,000	..	...	24·5
Chester*	33,000	...	...	45·45
Exeter (City)	37,000	...	...	25·0
Exeter (St. Thomas')	5,000	...	...	30·0
Chelmsford	8,000	...	...	18·75
Bath	53,000	...	...	19·0
Berwick	10,000	...	...	18·0
Gosport	22,000	...	...	10·01
St. Helens†	40,000	...	...	17·5
Hastings	20,000 to 25,000	...	...	21·0
Huddersfield	40,000	...	...	10·0
Shrewsbury	26,000	...	...	19·22
Windsor ‡ (including Eton and Clewer) ...	14,000	...	...	46·42
Warwick	11,000	...	...	22·72
Constant Service.				
Manchester...	685,000	14·0	7·0	21·0
Glasgow	511,000	45·0	8·0	53·0
Leeds	225,000	18·5	4·5	23·0
Edinburgh	206,000	30·0	6·0	36·0
Newcastle	200,000	21·0	7·0	28·0
Sunderland...	150,000	13·0	6·5	19·5
Nottingham	130,000	13·0	5·5	18·5
Bristol	116,000	16·66	2·0	18·66
Preston	82,000	18·5	6·0	24·5
Norwich	57,500	10·8	3·7	14·5
Leicester	53,000	14·0	7·0	21·0
Derby	38,000	15·0	5·0	20·0
Cambridge	30,000	..	...	18·0
Sheffield	225,000	26·0	3·0	29·0
The following are now constant Service—				
* Chester	35,000	28·5	1·71	30.21
† St. Helens	45,000	12·0	14·0	26·0
‡ Windsor (including Eton and Clewer) ...	14,000	37·5	...	37·5

Date of Table 1876.

Statement showing the capacity of the Tulsi Lake at stated levels.

I.	II.	III.	
Total Capacity at certain Levels descending.	Capacity between Levels in Column 3.	Mean Levels of Contours on Town Hall datum.	
	Gallons.		
	.....	446·50	Waste Weir.
443,223,625	443,223,625	440·	
731,005,440	287,781,815	435·	
956,755,300	224,749,860	430·	
1,135,220,330	179,465,030	425·	
1,270,461,205	135,240,875	420·	
1,365,474,295	95,013,095	415·	
1,426,294,765	60,820,470	410·	
1,461,817,765	35,523,000	405·	
1,478,364,205	16,546,440	400.	
1,479,469,322	1,105,112	399·36	Lowest Inlet.
Total ...	1,479,469,322		

Statement of Consumption from Tulsi.

	Month and Date.		Weekly Consumption.	Daily Consumption.	
1879	September ...	21	17,047,062	2,435,294	
	„ ...	28	29,320,947	4,188,707	
	October	5	40,912,950	5,844,707	
	„	12	44,322,362	6,331,766	
	„	19	51,141,187	7,305,774	*Note.*—At 423 on the gauge the capacity of the Lake is 1,191,000,000 gallons, and the numbers to be supplied are 158,658, so the daily allowance to the area is 4,460,674 gallons. The quantity per week would be 31,224,718 gallons, and it will be seen how largely it was exceeded from October to the second week in February. For 24 out of the 39 weeks it was either exceeded, or taken, and in 21 it was exceeded.
	„	25	54,917,975	7,845,425	
	November ...	2	57,694,044	8,242,206	
	„ ...	9	44,656,737	6,379,544	
	„ ...	16	52,093,000	7,441,857	
	„ ...	23	52,129,047	7,447,207	
	„ ...	30	61,710,406	8,815,772	
	December ...	7	45,174,224	6,453,603	
	„ ...	14	42,950,457	6,125,784	
	„ ...	21	45,865,419	6,552,202	
	„ ...	28	45,497,781	6,528,254	
1880	January	4	35,510,477	5,071,454	
	„	11	40,673,819	5,810,546	
	„	18	43,533,675	6,219,096	
	„	25	41,175,625	5,882,803	
	February... ...	1	45,074,275	6,439,182	
	„	8	40,986,456	5,855,208	
	„	15	31,273,769	4,467,681	
	„	22	18,137,731	2,591,104	
	„	29	28,315,256	4,045,036	
	March	7	31,202,819	4,457,545	
	„	14	31,516,662	4,502,380	
	„	21	28,645,206	4,092,172	
	„	28	30,278,356	4,325,479	
	April	4	31,048,869	4,435,552	
	„	11	30,681,812	4,383,116	
	„	18	31,105,401	4,443,628	
	„	25	27,589,138	3,941,305	
	May	2	23,531,912	3,361,701	
	„	9	17,292,383	2,470,340	
	„	16	22,223,064	3,176,152	
	„	23	23,753,274	3,393,324	
	„	30	23,373,221	3,339,031	
	June	6	2,092,288	298,612	
	„	13	10,217,839	1,459,691	

APPENDIX E.

The following are the regulations in extenso, now in force at Norwich:

1. The Company will, at their own cost, lay down and maintain all the lead or other branches extending from their main to the side of the public highway in which such main is situate; and will, at their own cost, carry the pipe through the frontage wall (if there be one), and six inches beyond, or otherwise equivalently allow fifteen inches in length for the owner's or occupier's plumber to connect his work to.

2. The owner or occupier must, at his own expense, lay down and maintain all the pipes and apparatus upon his premises, or for his use, and of the strengths and descriptions and subject to the rules following, that is to say—

A.—Such pipes must, unless otherwise agreed, be of lead, and of not less than the following weights, namely:—

⅜ inch...	5	lbs. per yard.
½ „	7	„ „
⅝ „	9	„ „
¾ „	11	„ „
1 „	16	„ „
1¼ „	22½	„ „

Note.—Owners and occupiers, before laying on the water or making alterations in their apparatus, are requested to inquire at the Company's offices the sizes of the pipes proper to be used, that such sizes may be duly proportioned to the pressure of water in the Company's mains in the district, and thus useless expense be prevented.

B.—The drawing (bib) stop and ball cocks must be strong and of hard brass, and the better to secure water-tightness, of the kinds from time to time sanctioned and approved by the Company; and unless and until due notification to the contrary, the drawing cocks must be of the best and now approved kind of those called 'screwdown cocks,' as manufactured by Messrs. Guest and Chrimes and Messrs. Stock Brothers and Taylor, with leather faces, not liable to turn on the seat; and in courts of houses and other exposed places, must be protected by an iron casing, and be made to open with keys; and the ball taps must be of the best and now approved kind, as manufactured by Messrs. Lambert and Sons, or by Mr. George Watson. Till otherwise notified, no other description of cock must be used without previous and express permission of the Company.

C.—Every cistern must be absolutely water-tight, and be provided with a ball-cock and proper means of access and inspection, but must not have an overflow or waste pipe; and if any such should exist, the same must be removed, or effectually and permanently closed before the water is turned on; but nevertheless, as exceptional instances will occasionally occur, in which it will be necessary to provide against the possibility of over-filling, the Company will, in such exceptional instances, allow a detective or warning pipe to be attached to the cistern, provided that in every such case a written consent must be first obtained from the Manager of the Company, stating the fact of such consent, and the position in which the detective or warning pipe must be fixed; and in every such case the work must be executed under the immediate superintendence of an officer of the Company, and in manner stated.

On no account whatever can the water of the Company be allowed to communicate with any cistern or place intended or used for the reception of rain water.

D.—*Water-closets.*—Every pan-closet must be provided with a full and complete apparatus, comprising a ball-cock and a service cistern, fitted with a boot or division to be carried as high as the top of the cistern, and capable of containing not more than one and a half gallons of water when filled within three inches of the top, and two proper valves so arranged as to let down not more than one boot or divisionful of water at each pull, or be capable of allowing the water to run to waste either by intention or neglect, and must also have a down-pipe of lead from the cistern to the basin, of not less than 1¼ inch in diameter, and weighing 9 lbs. to the yard run; and a proper basin, scatterer, weighed lever, pan, trap, and other appliances, needful to prevent such water closet from becoming a nuisance, and thereby inducing an undue consumption of water; and the valves must be worked by cross rods instead of by wires or chains. Every self-acting or pull-down water closet must be of a description approved by the Company, and must have either a lead cistern similar to a pan-closet, or a double-valve cast-iron service box, of a kind approved by the Company and fitted with a proper cover to screw on, and internal apparatus in all respects similar to that of the boot of the pan-closet above described, and a similar down-pipe of lead or cast-iron, and must have a proper wide rim flushing basin and trap of a kind approved by the Company. No wire will be allowed to be used in the construction of these water-closets.

The cast-iron double-valve service boxes must be provided with a ball-tap of the approved kind, and of half an inch diameter where the pressure is less than 40 feet

effective head, of three-eighths of an inch diameter where the pressure is less than 70 feet effective head, and a ball-tap of a quarter of an inch diameter where the pressure is more than 70 feet effective head.

Note.—No pipe will be suffered, under any pretence whatever, to communicate directly with the basin or tap, or otherwise than with the cistern or service-box of a water-closet or soil pan, and the same shall be so constructed and used as to prevent the waste or undue consumption of water, and the return of foul air, and other noisome or impure matter into the mains or other pipes of the Company.

E.—Every bath must be constructed without an overflow or waste pipe, and must be provided with a well-fitted and perfectly water-tight apparatus, to prevent the water from flowing into and out of the bath at the same time.

F.—No pipe must be laid through, in, or into any slough, drain, ash-pit, manure-hole, or other place, from which, in event of decay or injury to such pipe, the water of the Company might be liable to become fouled, or to escape without observation, or without occasioning the necessity of immediate repair. In every case in which any such slough, drain, ash-pit, manure-hole, or other place as aforesaid, shall be in the unavoidable course of the pipe, such pipe shall be passed through an exterior cast-iron pipe or box of sufficient length and strength to afford due protection to the water-pipe, and so bring any leakage or waste within the means of easy detection.

G.—Every pipe and apparatus laid and fixed for the use of the consumer must be inspected by an officer of the Company before it is connected with the Company's works; and, if found not in accordance with the Company's regulations, must be forthwith removed or altered.

H.—Every meter (unless otherwise specially agreed) must be provided with a separate distinct inlet pipe leading from the main or other pipe of the Company, upon which inlet pipe no stop-cock, or other outlet, leading to or connected with the premises for the supply of which such meter is fixed, will be permitted.

3. The water supplied must not be allowed to run to waste, either wilfully or by neglect, nor must it be used for any other purpose, or to any great extent, than shall have been agreed for.

4. No pipe must be attached to the works of the Company, or to any pipe or apparatus connected therewith; nor must any alteration be made in any existing pipe or apparatus without due notice being given to, and the consent of the proper officer of the Company being first obtained.

5. The supply and use of water for the purposes of trade and manufacture must be open to inspection and admeasurement whenever required, and such information must be from time to time afforded as will be sufficient to enable the Company to obtain a satisfactory account of the quantity of water actually consumed, and of the pipes, cocks, cisterns, and other apparatus and conveniences for delivering, receiving, and using such water.

6. The Company will, if and when so desired, execute all kinds of plumbers' work connected with the supply of water to their tenants, but are nevertheless desirous that the private business of the consumers of water shall be open to all the plumbers of the city; as, however, it is essential to the protection of the interest of the consumers, as well as of the Company, that such work shall be well and strongly executed, and that the Directors of the Water Works Company shall possess a full and satisfactory knowledge of the state of the undertaking in all its departments, it is announced that no plumber or other workman will be allowed to do or perform any work connected with the supply of water, till he shall have been admitted, enrolled, and published by the Directors, as 'an authorized water works plumber,' and shall have entered into a written engagement to conform to and comply with the rules and regulations of the Company in relation to the construction and management of the works and fittings to which such rules and regulations shall from time to time apply; and all responsible master plumbers, on expressing their willingness to comply with such rules and regulations, will be admitted immediately on signing an undertaking to that effect. If at any time afterwards any such plumber shall be found guilty of wilfully breaking or evading the said rules or regulations, either by himself, or his workmen, or shall refuse to communicate any information required of him, in regard to any work done by him or his workmen, or under his superintendence, or on his responsibility, his name will be erased from the list of 'authorized plumbers,' and will be forthwith advertised as having been so struck off.

7. No person is to be employed in or about the water works, or any pipe or apparatus connected therewith, who has not been admitted 'an authorized plumber,' or whose name shall have been struck off the list as aforesaid.

8. The Company shall pay a reward of twenty shillings to any person who will give such information as shall lead to the conviction of any person who shall fraudulently attach any pipe or pipes to the pipes of the Company, or to any pipe, cistern, or apparatus connected therewith, or to or into which the water of the Company shall flow or proceed; or who shall fraudulently use or misappropriate the water of the Company, or who shall knowingly permit the same to be fraudulently used or otherwise misappropriated.

9. The Company will also adequately remunerate any person who will communicate timely information to their officers of any leakages or wastes of water, and whether the same be accidentally, negligently, or wilfully occasioned or suffered.

10. The Company do not permit their officers, servants, workmen, or agents, to solicit or receive any fee or gratuity whatsoever, and desire to be informed with respect to any infraction of this regulation, and also in respect to any act of incivility or neglect of attention on the part of such officers, servants, workmen and agents or any of them.

APPENDIX F.

The following are the sections of the Norwich Act which have reference to the means adopted for the prevention of waste:—

XLV.—For the purpose of preventing the waste, misuse, or undue consumption or contamination of the Company's water, the Company may from time to time prescribe the size, nature, strength, materials, mode of arrangement, and repair of the pipes, valves, cocks, cisterns, water-closets, and other apparatus to be used, and may interdict any arrangement, and the use of any pipes, valves, cocks, cisterns, water-closets, and other apparatus which in their judgment may tend to any such waste, misuse, undue consumption, or contamination.

XLVI.—The Company shall not be bound to supply any water, unless the pipes, cocks, cisterns, water-closets, or other apparatus to be used be made of such size, nature, strength, and materials, and be so arranged and repaired as the Company from time to time prescribe or approve; and in the event of any dispute as to whether such pipes, cocks, cisterns, water-closets, and other apparatus are of such size, nature, strength, and materials as aforesaid, or have been so arranged and repaired as prescribed and approved by the Company, such dispute shall be settled by two Justices, either of the City of Norwich or the County of Norfolk, in the manner provided by 'The Railways Clauses Consolidation Act, 1845,' with respect to the recovery of damages not specially provided for, and of penalties, and for the determination of any other matter referred to Justices.

XLVII.—The Company may, after twenty-four hours' notice, repair or alter any pipe, valve, cock, cistern, water-closet, or other apparatus of any person supplied by them with water, so as to prevent any waste of water; and the expenses of the repair or alteration shall be repaid to them by the person on whose credit the water is supplied thereto, and may be recovered by them as damages.

XLVIII.—Every person supplied with water by the Company who wilfully or negligently suffers any pipe, valve, cock, cistern, water-closet, or other apparatus to be out of repair, or so used as that water supplied to him by the Company is wasted or misused, so as to allow an undue consumption of the Company's water, or to allow the return of foul air or other noisome or other impure matter to return into the pipes belonging to the Company, or connected with the mains or pipes of the Company, shall for every such offence forfeit to the Company a sum not exceeding five pounds.

REPORT ON NEEMUCH.

Under instructions from Government, I made a special inspection of the Cantonment at Neemuch, and made it with reference to the remarks by the Army Sanitary Commission in their Memorandum on the Health Returns of British Troops in Bombay for 1878. For the topography I am indebted to Reports in the Office of the Quarter Master General, and from these it may be gathered that the place is in Lat. 24° 27′ 38″ N., and Long. 74° 54′ 15″ E., the approximate height above mean sea-level being 1,476 feet. The station is on a table-land, which rises out of the neighbouring plain to a height of about 150 feet on the western semi-circle, and from 50 to 80 on the eastern. The surface here has 3 undulations which run and slope from N.W. to S.E., and the Cantonment is on the centre one. From the foot of the table-land, within a radius of 12 miles, the surface is generally flat, except on the S.W., where the rugged and hilly ground to the west of Jurun encroaches on it: this patch is covered with jungle; an outskirt of those which cover the country further to the south, and which are so notoriously unhealthy up to the end of January, or later even. To the North, at a distance of 13 miles, is the Chowrassee steppe, the first of the 3 ascents to the great plateau of Central India. To the W. and N.W., at a distance of 24 miles, are 2 lines of low hills, and between them is a valley covered with scrub jungle. To the S. and S.E. the country is generally open, and cultivated as far as the Sien and Chambul rivers. The soil on the undulations is laterite, and that of the valleys and the surrounding country is black. On the N.E. and S.W. of the Cantonment are two streams, affluents of the Chambul, which are the natural carriers of the surface and sub-soil drainage. As regards climate there was a time when the place was looked upon as amongst the best in India, and it was resorted to from far and near as a sort of sanitarium on the plains. It is only since it was made a station for European troops, that it has come to be regarded as unhealthy. From November to March the weather is more or less agreeable, and for weeks together there is a dry, and bracing cold which makes fires welcome and enjoyable. In April and May it is hot, as it is everywhere, but during the rainy season there are fine intervals with a pleasingly moderate temperature. September and October are trying months, and there is, then, a tendency to depression, which few escape; it is at this time that fevers are so rife amongst Europeans and Natives alike. The average annual rain-fall (mean of 5 years) is 33·62 inches: the mean daily range of the thermometer (mean of 3 years) is 29° Fahr. During the cold season the winds blow from S.E. to S.W., and in the hot weather from S.W. In the rains, too, they range from S.W. to N.W. It will be seen from the Wind Chart how they affect the different buildings (see Return **M**). Lying west of the alignment is the Leora Tank, which some have denounced as a prominent disease cause; but, with the greatest deference to local opinions, I venture to think the evidence against it is not quite conclusive. It has been formed by damming up a couple of water-courses: it is only 800 feet long and 400 broad, a mere pond, and there is no exuberant vegetation either within it or near its margin; it is essentially a clean tank. Commencing on the right flank it is distant from the Hospital 1,870 feet, from the Quarter Guard 1,610 feet, from No. 7 Barrack 2,080 feet, from No. 5 Barrack it is 1,940 feet, and 2,200 from No. 4; from the nearest Artillery block it is 2,500 feet. It leaks somewhat to the southward, and here there is room for improvement; in fact, the whole of this quarter might be looked to with advantage: not that much is needed, but here and there the natural drainage lines want helping.

Paras. 12 and 34.

Topography.

Soil.

Surface drainage.

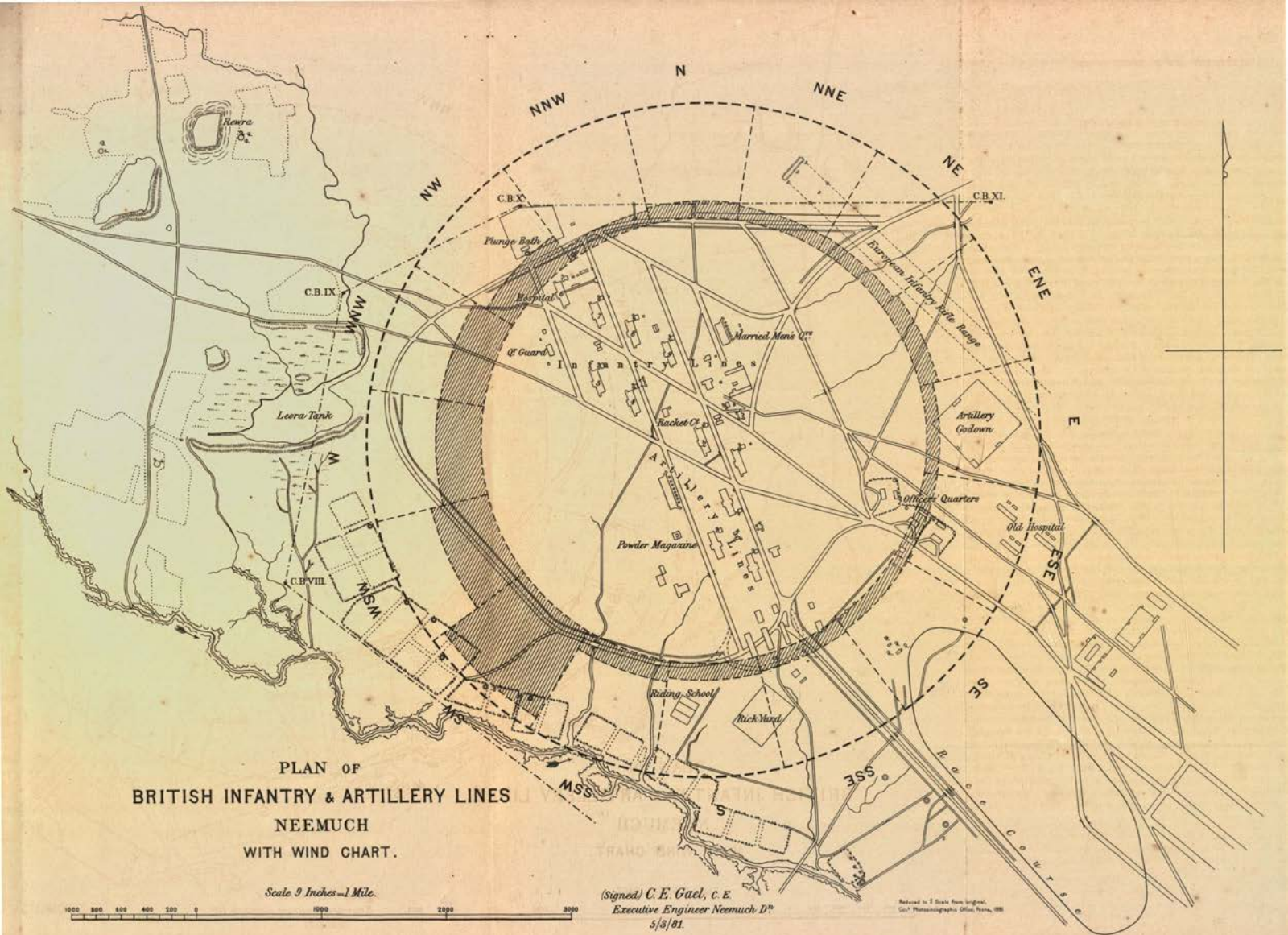
Climate.

Rain-fall, temperature and direction of wind.

Leora Tank.

A sketch plan is given, which shows the relative positions of the European Infantry and Artillery Barracks and their surroundings. The sites are the highest in camp, and the

Barracks, &c.



PLAN OF
BRITISH INFANTRY & ARTILLERY LINES
NEEMUCH
WITH WIND CHART.

Scale 9 Inches = 1 Mile.

1000 800 600 400 200 0 1000 2000 3000

(Signed) C.E. Gael, C.E.
Executive Engineer Neemuch Dv.
5/8/81.

Reduced to ½ Scale from original.
Gen.l Photozincographic Office, Poona, 1886

alignment is N.-N.W. and S.-S.E. The buildings are on "standard plans," with good plinths, upper stories, *thorough* ventilation, and ample accommodation, both cubic and superficial. They stand on clear open ground, the natural drainage is exceptionally good, the sub-soil is dry, and the general conditions are, in every respect, all that can be desired. If there be a drawback, it is, that at times there is almost too much breeze. The subsidiary buildings are also equally good.

Water-supply.

The water-supply for the Barracks is from a covered well. It is raised and passed through a filter bed, from which it is drawn for distribution. In the Barracks it is again filtered through the Macnamara filters. It gives the following results on analysis:—

Samples.	Grains per Gallon.		Parts per Million.		Sediment.
			Ammonia.		
	Total Solids.	Chlorine.	Free.	Albuminoid.	
Filter well ...	30·1	2·1	0·002	0·06	Very scanty—vegetable debris.
Hospital filter ...	28·4	2·0	Nil.	0·04	Nil.

The object of my visit was to try and find some cause, or causes for the unusual rates of sickness—some conditions so markedly insanitary as to furnish a clue. I may state at once that I failed to do so. On the contrary, I saw a place well cared for as regards its conservancy—with good natural drainage, aided to an extent that might affect the wells, good barracks, good water, good rations, good clothing, light duty, and a good climate. And yet, notwithstanding these advantages, the percentage of fever admissions to strength was 181·42 (from January to November). The average time in hospital, however, was only 7·13 days, and the percentage of deaths was *nil*. The Medical Officer says: "The type was quotidian ague, with splenic and cerebral complications." He also says: "The prevailing disease is malarial fever. During the past year (1880) it has not been intense in form. It temporarily yields to quinine treatment, but is apt to recur again and again. Its sequelæ debility, anœmia, and enlarged spleen, lead to much invaliding to England." If these fevers are really due to malaria, it can hardly be that it comes from those distant jungles spoken of as lying to the south, and notoriously unhealthy; nor can we look with suspicion on the ordinary opium and grain cultivation in the immediate neighbourhood. My impression is that very many of these febrile attacks and bowel-complaints may be traced to individual imprudence of some kind; and not only at Neemuch, but elsewhere; indeed, the habits of many of the men ensure them. It is a common thing for a man, on returning heated from parade or his amusements, to throw off his coat, and sit cooling down in the welcome, but treacherous breeze. In the evening too, when the day's duty is over, he strolls into the bázár, and if he takes any liquor, it is of the worst quality, and taken on an empty stomach, for his dinner was at mid-day. If he is late, he goes home walking fast, or at the double, and arrives just in time, but heated. He then goes to bed, and is soon asleep; but whilst sleeping, the cold night wind plays upon him, and does its work only too surely. If there is a morning parade, it is an early one, and then the morning sun beats down on him. He has not had morning coffee or biscuit, and when his breakfast time comes, the chances are he has no appetite for it. Before the day is over, he is in hospital with fever, or diarrhœa. Others and these are men of good character, go for long shooting excursions, and run the risk of drinking impure water; or they overtax their strength. Others, again, sicken from pure inaction.

Trial pits in Barrack floors.

With a view to test the condition of the soil beneath the barrack pavement, trial pits were dug under the directions of the Officer in Medical charge: they were 5′×6′×4′

deep. One was dug inside No. 3 Artillery Barrack, and another outside about 50 yards off. In the inside pit the first 2 feet was made up of concrete and stone, and it was quite dry. Below this was the natural soil and rock, slightly damp. The temperature was taken by sinking a thermometer 6 inches below the bottom of the pits: in the inside pit it was 66°, in the outside 68°, and the external air was 75°. Similar pits were sunk inside and outside No. 5 Infantry Barrack, and the conditions were the same; the temperatures were respectively 68′, 69°, and 77°. The Medical Officer says: "The soil was in all cases perfectly sweet, and contained nothing, so far as we could find out, to cause disease."

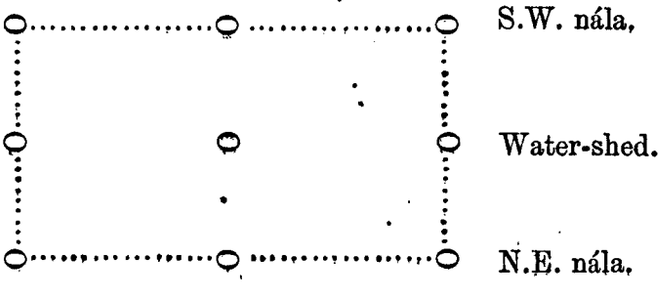
Fever amongst Native Troops.

Amongst the Native Cavalry and Infantry; the percentages of fever admissions to strength were respectively 37* and 78. The plan will show how faulty are the huts, and nothing can improve them short of rebuilding them, and allowing more space per head. The Infantry especially are over-crowded—more particularly the married men.

If I omit to speak of other parts of the station, it is because there was nothing anywhere to call for special remark.

Sub-soil water levels.

A separate plan shows the sub-soil water level as observed at selected wells. These are on the water-shed almost in the centre line of the station, and 3 on either side are on lines roughly paralleled thus—



The outer wells are more or less near the nálas, which are the natural drainage lines, and the area embraced represents a fair amount of the station area. It will be seen that during September, October, and November—the reputed unhealthy months—the water on the N.E. line is from 6 to 11 feet below the surface; on the S.W. line it is from 7 to 13, and on the water-shed it is from 15 to 33. There is evidently some abnormal condition at well No. 38 on this line, which keeps the sub-soil water at a higher level than elsewhere.

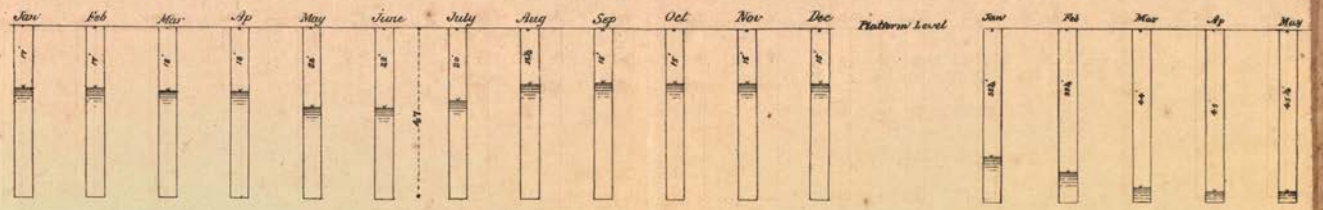
Cholera of 1878.

With regard to the cholera epidemic of 1878 there are some interesting notes by Surgeon-Major McDowall, who was there at the time with the 3rd Light Cavalry, and in charge of Staff and Details. He says the disease had been here and there about the country since the previous November, and in that month there were 2 fatal cases in camp. As early as May 1878 there were single isolated cases, but in October it assumed an epidemic form, and the type was exceptionally severe, increasing in severity till the 15th November. The first case in May—on the 26th—was that of a man who had been out shooting in the environs; and in November the worst cases occurred after a marching parade (ordered from Headquarters), when some men of the 68th "drank from the ditches." He adds: "The Royal Artillery did not, as they had more bheesties." There were 16 attacks and 14 deaths amongst the 68th (80·5 per cent.) amongst the Europeans of the Staff, and amongst the Natives it was about 60 per cent. There was one fatal case in the Artillery, but the Senior Medical Officer, British Troops, spoke of it as "probably not cholera." Deaths occurred at all stages of the malady, even as late as the twelfth day. Fourteen out of the 16 cases in the 68th Regiment came from No. 5 Barrack; but Dr. McDowall says that 6 of them had bought underclothing which had belonged to the first fatal case, and all 6 died, some as long as a month afterwards. Other men, who also bought kit, had bad diarrhœa. He says the Troops were occasionally moved, but not far enough perhaps, as the Hospital establishments were undermanned through sickness of Apothecaries and Hospital Assistants, and the soldiers were almost too exhausted from fever

* For 1879 it was 74.

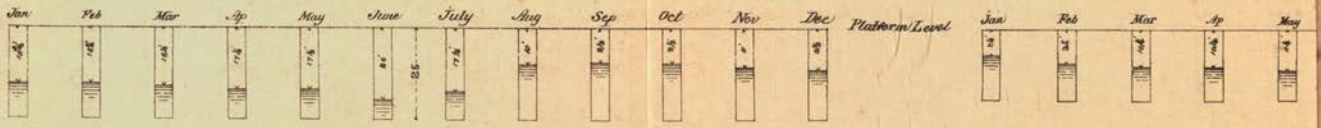
W

№38



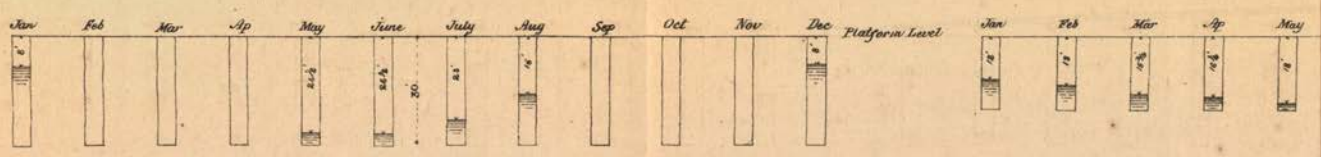
NULLA

New Well in N.I.L.



NULLA S

Well on Shew Ghat Road

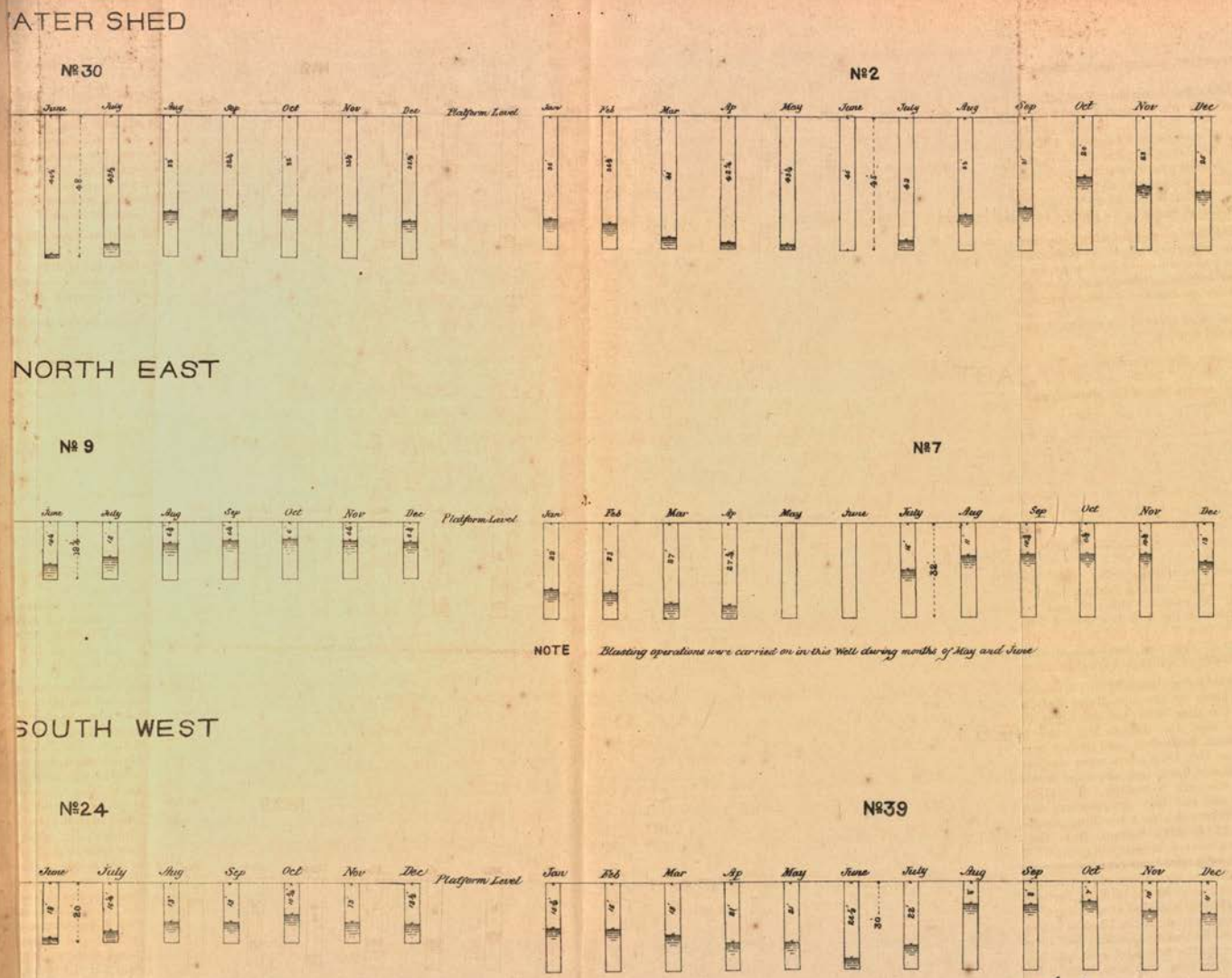


Note No Observations taken in this Well during Months of Feb, Mar, Ap, Sep, Oct and Nov

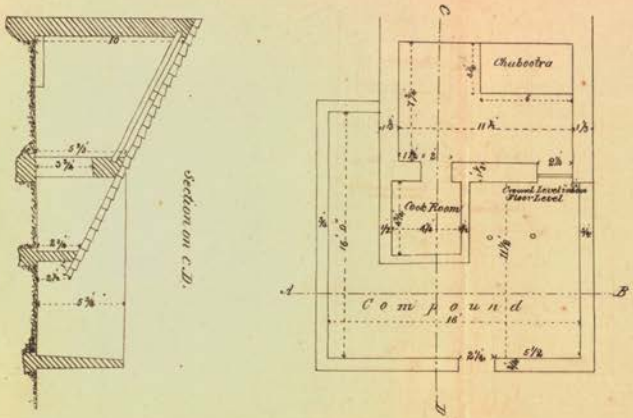
Scale 30 = 1 inch

A.R.D. 3rd/3/1881

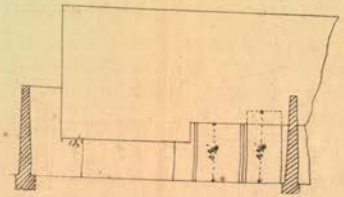
Reduced to ½ Scale from original.
Govt Photozincographic Office, Poona, 1881


ATER SHED
Nº 30
Nº 2
June
July
Aug
Sep
Oct
Nov
Dec
Platform Level
Jan
Feb
Mar
Ap
May
June
July
Aug
Sep
Oct
Nov
Dec
NORTH EAST
Nº 9
Nº 7
June
July
Aug
Sep
Oct
Nov
Dec
Platform Level
Jan
Feb
Mar
Ap
May
June
July
Aug
Sep
Oct
Nov
Dec
NOTE Blasting operations were carried on in this Well during months of May and June
SOUTH WEST
Nº 24
Nº 39
June
July
Aug
Sep
Oct
Nov
Dec
Platform Level
Jan
Feb
Mar
Ap
May
June
July
Aug
Sep
Oct
Nov
Dec
Wells Nº 38, 30 and 2. are Situated on the Watershed or immediately contiguous to it
New Well in N.I.L. is 120 yds distant from Nulla Nº 9 Well is 166 yds distant from Nulla Nº 7 Well is 244 yds distant from Nulla
Well on Shew Ghat Road is 100 yds do do Nº 24 Well is 260 yds do do Nº 39 Well is 340 yds do do
C. E.
Executive Engineer Neemuch Dn
5/3/81

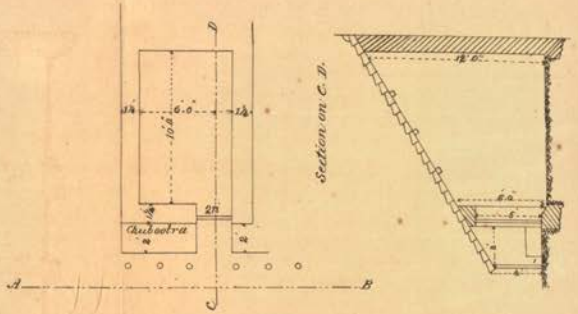
SOWAR'S HUT
N.O. LINES
NEEMUCH



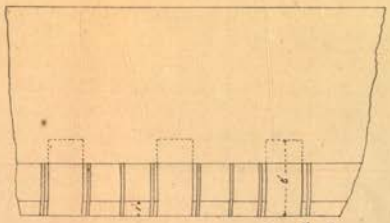
Elevation on A.B.



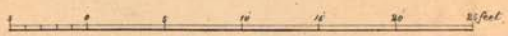
SEPOY'S HUT
N.I. LINES
NEEMUCH



Elevation on A.B.



Scale 5 feet to an inch



C.E.

Executive Engineer Neemuch Dn.

5/3/81

to pitch their tents even. In recommending that kit, bed covers, *cots*, and *tents* should be burnt after being used during an epidemic of cholera, Dr. McDowall instanced cases which had occurred near the place where these things had been stored. In 1872 a prisoner in the cells was attacked, and the Roman Catholic Chaplain barely escaped. In 1875 the Chaplain and the Barrack Sergeant both died from it. Since the epidemic of 1875 both the European Officers Commanding at the Arsenal were attacked, and one of them died, and several cases occurred amongst the natives. In 1878 there were bad cases of fever and diarrhœa in the same houses, and the local authorities took upon themselves the responsibility of burning all the kit, but not the tents. Dr. McDowall also recommended the issuing of duplicate kettles, or boilers, so that, in times of cholera, all the water for domestic use might be boiled. In 1878 the 68th and the Artillery were both supplied from the same well. If the origin of the epidemic cannot be traced, it is clear from what Dr. McDowall says, that it was perpetuated by individual imprudence.

The analyses of the waters examined is here given, and they show, that, out of 16 samples, only 3 were "Bad," 3 were "Fair," and 10 were "Good."

Results of the Examination of Samples of Water at Neemuch.

Date.	Source.	Grains per Gallon.		Parts per Million.		Sediment.	Remarks.
		Total Solids.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.		
13th Dec. 1880.	Well near Travellers' Bungalow, Supplying Jail.	25·2	1·54	·01	·09	Very scanty—Vegetable debris, crystals of mineral matter.	Good.
Do.	„ No. 7 in Native Cavalry Lines.	30·8	3·5	·02	·11	Scanty—Vegetable debris, Paramecia, crystals of carbonate of lime.	Do.
14th Do.	„ No. 8 „ „ „ „	26·6	2·1	·01	·08	Vegetable debris—Paramecia, Vorticella.	Do.
Do.	„ No. 2 „ „ „ Hospital.	35·7	2·8	·002	·08	Very scanty—Vegetable debris, Paramecia.	Do.
15th Do.	„ in front of Native Cavalry Orderly-room.	31·5	10·2	·008	·07	Very scanty—Vegetable debris, Paramecia.	Fair.
Do.	„ No. 5	66·5	10·3	·01	·11	Very scanty—Vegetable debris, crystals of carbonate of lime.	Bad.
16th Do.	„ No. 6	67·2	9·3	·01	·11	Very scanty—Vegetable debris, Paramecia.	Do.
Do.	„ No. 12. Supplying Native Infantry	18·9	4·6	·005	·10	Very scanty—Vegetable debris, crystals of carbonate of lime.	Good.
17th Do.	„ Native Infantry Hospital ...	25·2	1·1	·005	·08	Scanty—Vegetable debris, crystals of mineral matter.	Do.
Do.	„ No. 37 between Royal Artillery and European Infantry Barracks.	29·4	2·8	·002	·06	Very scanty—Vegetable debris...	Do.
18th Do.	„ No. 37, Plunge Bath	36·4	2·24	·01	·09	Very scanty—Vegetable debris...	Do.
Do.	„ No. 38, Station Hospital (Filter)	30·1	2·1	·002	·06	Do. do. do. ..	Do.
19th Do.	„ Macnamara Filter in Station Hospital.	28·4	2	Nil.	·04	Nil	Do.
Do.	„ Eedgah in Bázár	51·8	8·05	·005	·07	Very scanty—Vegetable debris, Paramecia, vorticella.	Fair.
20th Do.	„ Mohenki Baree...	41·6	5·6	·008	·09	Vegetable debris—Paramecia ...	Do.
	„ Leora Tank	16·8	6·12	·21	·74	Copious—Vegetable debris, Paramecia, Rotifers.	Bad.

J. A. DESOUZA,

Travelling Water Analyst,

Sanitary Department.

RETURN M.

LIST of Observations of Wind taken at Neemuch from the year 1878 *to* 1880.

Dated Neemuch, 5th March 1881.

		Number of Observations of Wind from each direction at 10 and 16 hours.																	
		N.	N. N. E.	N. E.	E. N. E.	E.	E. S. E.	S. E.	S. S. E.	S.	S. S. W.	S. W.	W. S. W.	W.	W. N. W.	N. W.	N. N. W.	Calm.	Variable.	
1878.	January	0	6	4	11	8	6	8	5	8	2	8	8	2	2	1	8	0	0	62
	February	5	0	1	8	5	3	8	2	1	2	4	3	7	5	3	4	0	0	56
	March	1	2	4	1	1	3	4	2	4	7	3	7	10	8	4	1	0	0	62
	April	2	1	2	2	0	1	0	3	0	4	7	15	8	4	8	3	0	0	60
	May	0	0	0	0	0	1	1	0	2	5	10	13	18	7	4	1	0	0	62
	June	0	2	0	0	0	0	0	0	1	3	21	16	11	4	2	0	0	0	60
	July	0	0	0	1	0	0	1	1	2	2	14	25	6	7	3	0	0	0	62
	August	1	1	2	1	1	0	0	0	4	0	21	20	6	1	4	0	0	0	62
	September	5	4	2	2	2	0	1	0	2	4	11	5	7	7	6	2	0	0	60
	October	4	2	4	5	3	1	1	1	2	2	2	2	3	23	4	3	0	0	62
	November	8	6	7	8	4	4	3	4	1	5	1	0	3	1	3	2	0	0	60
	December	4	4	4	8	2	5	4	6	1	2	8	2	2	3	2	5	0	0	62
1879.	January	1	2	2	7	3	2	3	3	1	4	8	3	4	3	4	2	0	0	62
	February	1	0	0	3	4	3	5	3	4	3	8	2	4	5	7	4	0	0	56
	March	1	0	1	2	1	3	6	0	2	1	9	7	7	16	4	2	0	0	62
	April	3	0	0	1	2	0	1	1	1	1	11	6	14	11	6	2	0	0	60
	May	3	0	0	0	1	0	0	0	0	1	7	18	19	11	2	0	0	0	62
	June	1	1	0	0	0	0	0	0	0	1	24	20	5	5	2	1	0	0	60
	July	1	2	0	0	0	0	0	0	0	2	27	22	5	2	1	0	0		62
	August	1	1	0	0	0	0	0	0	0	1	30	12	7	5	5	0	0		62
	September	3	2	3	1	0	1	0	0	0	2	12	11	4	8	12	1	0		60
	October	3	1	6	3	3	1	1	2	1	1	10	4	6	9	9	2	0		62
	November	4	4	6	5	2	5	6	7	4	6	1	0	0	3	6	1	0		60
	December	3	2	4	3	4	6	1	6	13	4	7	1	0	0	5	3	0		62
1880.	January	2	2	5	3	2	3	2	6	7	3	12	6	3	4	1	1	0		62
	February	2	2	3	2	2	2	1	3	5	18	4	4	4	3	1	0			58
	March	2	0	0	0	1	1	0	2	1	4	10	10	13	9	5	4	0		62
	April	0	0	0	0	0	0	0	0	0	3	12	11	18	8	8	0	0		60
	May	1	1	1	0	0	0	0	0	0	1	30	13	6	6	3	0	2		62
	June	0	1	0	0	0	0	0	0	0	0	45	6	1	2	3	2	0		60
	July	1	1	0	0	0	0	0	1	0	0	37	5	4	7	5	1	0		62
	August	0	0	0	0	0	0	0	0	0	0	44	7	4	3	3	1	0		62
	September	7	5	3	2	0	0	0	0	1	2	14	7	5	2	3	4	0		60
	October	1	3	1	3	2	1	2	2	2	3	9	5	4	13	12	3	0		62
	November	3	2	0	4	1	3	5	8	13	9	2	0	1	3	4	2	0		60
	December																			
Total of Observations for 3 years		74	60	65	86	54	55	60	66	76	95	492	287	221	216	162	61	0		21·30
Average of Observations for 1 year		24·66	20	21·66	28·66	18	18·33	20	22	25·33	31·66	164	95·66	73·66	72	50·66	20·33			710
Ratio of number of Observations for each point of Compass to total number of Observations		1 / 28·79	1 / 35·5	1 / 32·78	1 / 24·77	1 / 39·44	1 / 38·73	1 / 35·5	1 / 32·27	1 / 28·03	1 / 22·42	1 / 4·33	1 / 7·42	1 / 9·64	1 / 9·86	1 / 14·0	1 / 534·92			
Rates of Prevalence of each point of Compass the least Prevalence		1·37	1·11	1·20	1·59	1·00	1·02	1·11	1·22	1·40	1·76	9·10	5·31	4·09	4·00	2·80	1·12			

Water Filtration.

I have had more than one reference on the general question of filtration, and it may be useful perhaps if I say here that except on a small scale, and for domestic purposes, the most suitable and effective medium is sand. The size of the beds must, of course, be regulated by the size of the reservoir and the amount to be supplied, and these are points for the Engineer to determine. The rate of filtration should not exceed six inches vertically per hour, and at this rate each square foot of surface would deliver 12 cubic feet per day.

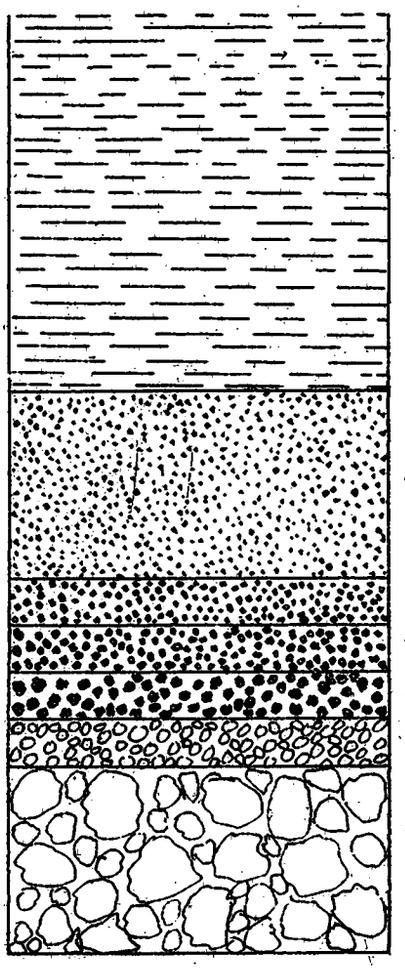
The formation of the filter beds is much the same everywhere at Home, and a section is given of those at Poughkeepsie in America. They are thus described: "There are two filter beds, each $200' \times 7\frac{1}{2}'$ feet in plan, and 12 feet deep, built with vertical walls: each has therefore 14,700 square feet of filtering area. The six feet of filtering materials, beginning at the top of the bed, are disposed as follows" :—

Buck's Hygiene, vol. 1, p. 269.

24	inches	of sand.	
6	do.	of	$0\frac{1}{4}$ inch gravel.
6	do.	of	$0\frac{1}{2}$ do. do.
6	do.	of	1 do. do.
6	do.	of	2 do. stones.
24	do.	of 4 to 8	do. do.
72	inches.		

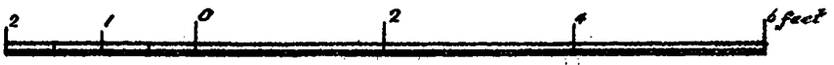
Section of Poughkeepsie filter bed

Buck's Hygiene Vol. 1. page 269.



24 inches sand
6 — ¼ inch gravel
6 — ½ — —
6 — 1 — —
6 — 2 — stones
24 — 4 to 8 — —
72 inches

Scale of 2 feet to an Inch



Photozincographed, Govt Office, Poona, 1881.

He says: "When the beds become clogged, so as no longer to filter with sufficient rapidity, the water is drawn down to from 12 to 14 inches below the upper surface of the filtering beds, and the upper layer of sand, for a depth of one-half, or three-quarters of an inch, is removed. When by successive removings the thickness of the sand has been considerably reduced, that which has been removed is washed, and replaced so as to restore the original thickness, the waste of washing being made up with fresh sand." It is hardly necessary to say that the supervision of the filter beds should be constant and strict, and there should always be settling basins. In some of the London Companies' filter beds the water is not more than two feet deep, and it is unadvisable to subject the sand to undue pressure. Experience alone will show what the depth should be, and how often the layers will require removal and renewal.

Water Analysis.

During the period from the 29th May 1880 to the 27th February 1881, Assistant Surgeon DeSouza, the Travelling Water Analyst of the Department, has examined 180 samples of water, and of these analyses 176 were made on the spot. He visited the following places:—Dhárávi, Mhow, Neemuch, Nasirabad, Indore, Ahmednagar, Yeola, Islámpur, Nerla, Sátára, Ahmedabad, and Pandharpur.

A table of analyses is given, and those only will be noticed now which call for remark by reason of their quality.

Nos. 1, 2, 6. Samples 1, 2, and 6 were examined in consequence of unusual sickness amongst the troops at Colába. Nos. 1 and 2 were from the supply pipe, and 6 was from the barrack filter. All three were so loaded with organic matter as to be unfit for drinking purposes, and the filtered sample was the worst. The source of supply, however, was the new impounding reservoir at Tulsi, and there is every reason to believe that the quality will be, in fact is already, as good as that from the larger and older reservoir at Vehár. The condition of the filtered sample shows how necessary it is to keep a strict watch upon barrack filters.

No. 3. Sample No. 3 was from a spring at Dhárávi in Sálsette. There was a proposal to take the water to Ezemordha for the use of the Salt Department Establishment. The quality was good.

Nos. 4 and 5. Samples 4 and 5 were from the Nágpur water-works. Both were suspicious from the presence of rotifers, but they had been 14 days in bottle. Samples previously examined were good, so here again the quality was probably accidental.

Nos. 7 to 91. Samples 7 to 91 were examined at Mhow with reference to the occurrence of enteric fever amongst the European Cavalry. It will be seen from the table that some of the samples had an excess of mineral matters, some of organic, and others of both mineral and organic. Where the excess was organic, the cause was apparent, and removable. No. 87 was a sample of ice supplied to the Cavalry Hospital. It held in suspension a large amount of carbonate of lime. The result probably of imperfect manufacture.

Nos. 99 and 101. Samples 99 and 101 were from Ahmednagar, and they had an excess of organic matter.

Nos. 109 to 118. Samples 109 to 118 were examined in the Sátára District in consequence of the local prevalence of guinea-worm. They were all highly charged with organic matter, and under the microscope the *Ascaris Lumbricoides* was detected in No. 109, and the *Filaria Medinensis* in No. 116.

Nos. 119, 120. Samples 119 and 120 (the last filtered) were from Karáchi, and both had an excess of mineral matter.

Nos. 148, 153 to 156, 159, 160, 164, 166.

Samples 148, 153 to 156, 159, 160, 164, and 166 were at Nasirabad, and all, even the filtered, were highly charged with organic matter. No. 148 was probably influenced by soakage from an adjoining field.

Pandharpur samples.

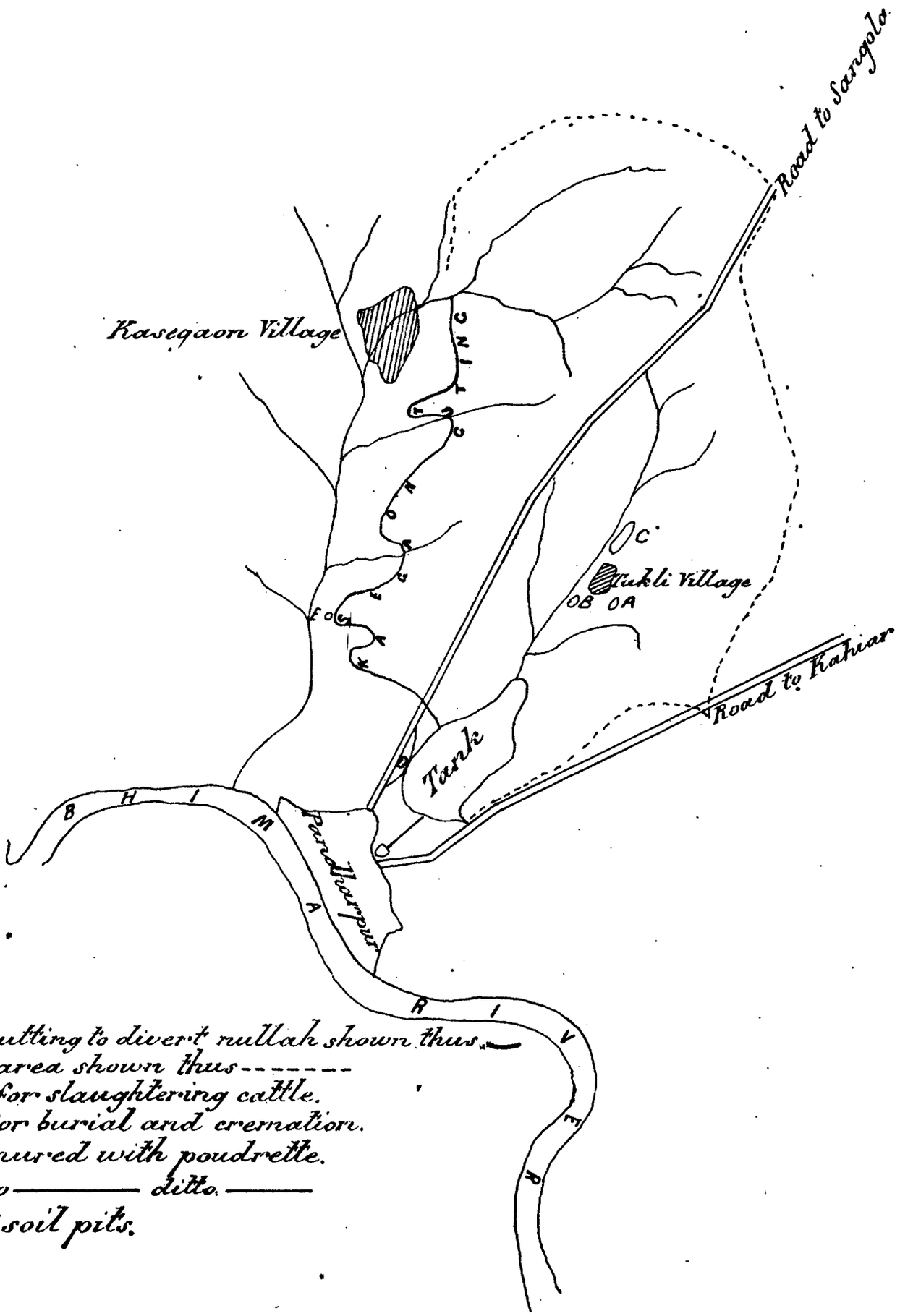
Samples 168 to 179 all relate to Pandharpur, and they were examined there in consequence of a representation that the water-supply of the town had become loaded with animalculæ, and was regarded with suspicion, if not aversion. It was found that the tank water was so charged with organic matter as to be unfit for drinking purposes. A sketch map is given to show the tank and its surroundings, and it will be seen, that within the catchment area is the village of Tákli, a small one, but an important factor as regards the tank. It lies on the right bank of a nála, which is a direct feeder of the tank; so, whatever of collected refuse there may be between the end of one monsoon and the breaking of the next, it is carried with unerring certainty directly into the tank. One has only to look round any village to see how much of impurity does collect, and to see what a serious item it is in connexion with water-supply. But this is not all. Near the village, and on the slope, is a large black soil field which is cultivated all the year round, and manured with poudrette. The burning and burial-ground is also on the bank of the nála, and, according to the Patel's statement, the bodies are interred in a sitting posture with only about a foot of earth on them. The consequence is that wild animals get at them, and when the Analyst was there, he described the stench as perfectly horrible. Another field, also manured with poudrette, lies still closer to the tank, and for many months there must be free communication between its sub-soil water and that of the tank. Nos. 169 and 173 are from the service reservoir—the first before it was cleaned out, the latter after, and both are bad from excess of organic matter—in fact, worse than the tank, as might be expected. Where impure water is passed into a reservoir, and that reservoir is not cleaned out sufficiently often, it is very certain that the deposit will decompose, and increase the impurity as it did in this instance. After the reservoir has been cleaned, and the water had stood for three days, it gave 0·25 parts per million of albuminoid ammonia, the tank water giving 0·40; so one may imagine what would be the effect of this accumulated subsidence. No. 176 was from a well adjoining a field manured with poudrette, and it was loaded with organic matter.

The state of things here disclosed is very deplorable, and the worst feature is, that every single source of impurity arises from neglect of the very A, B, C of sanitation. And here I would speak of the disadvantage of forming an impounding reservoir without taking up the whole of its catchment area, and exercising over it the strictest sanitary supervision. Not only at Pandharpur has this golden rule been neglected, but in Bombay the gathering grounds of Vehár and Tulsi are still beyond the control of the Corporation, and are subjected to contaminating influences. At Pandharpur the real remedy is to take up the entire catchment area; but I am given to understand, that, on financial grounds, this cannot be done. If it cannot, the next best thing is to provide as perfect filtration as can be devised—to keep the strictest watch upon the gathering ground, more especially in and around the village of Tákli—to prohibit burials or burnings within the catchment area, and disallow the use of poudrette on fields within the same. The service reservoir should be cleaned out as often as may be necessary, and it will be well to protect it against possible contamination from the nála which runs past it. All these points have been brought to the notice of the Collector of the District, Mr. Spry, and I feel confident that he fully appreciates their importance. I say it with reluctance, but it is my conviction that native supervision is not equal to the requirements of an important town with a water-supply delivered by gravitation. Without the slightest intention of reflecting upon native officials, there is no doubt that their early training, and their early habits, lead them to overlook, or to regard as unimportant, many breaches of sanitary law which Europeans, from their earliest years, are taught to consider of vital importance.

I have much pleasure in bringing to the notice of Government the very creditable manner in which Assistant Surgeon DeSouza has carried out his duties.

Sketch

showing the Tank at Pandharpur, and its catchment area.



Kasegaon cutting to divert nullah shown thus ——
Catchment area shown thus - - - - - - -
A ground for slaughtering cattle.
B " for burial and cremation.
C field manured with poudrette.
D —— ditto —— ditto ——
E old night soil pits.

Scale of 1 Mile to an Inch

0 1 2 3

Photozincographed, Govt Office, Poona, 1881

Samples of Water analysed by Assistant Surgeon J. A. DeSouza, Travelling Water Analyst, Sanitary Department, Bombay.

Number of Samples.	Date.	Station.	Source.	Grains per Gallon.		Parts per Million.		Sediment, &c.	Quality.
				Total Solids.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.		
1	29th May ...	Colába (Bombay.)	Stand-pipe in Infantry Barracks (Tulsi Water).	6·3	1·26	0·07	0·23	Scanty—Vegetable debris, Confervæ Monads.	Bad.
2	Do. ...	Do. ...	Do. do. ...	6·3	1·26	0·08	0·24	Copious—Vegetable debris, Confervæ Monads, Paramecia.	Bad.
3	19th June ...	Dhárávi ...	Spring	4·2	1·3	0·005	0·06	Very scanty—Vegetable debris, Paramecia.	Good.
4	21st Do. ...	Nagpore ...	Reservoir	5·6	0·42	0·07	0·09	Scanty—Vegetable debris, Paramecia, Rotifers.	Suspicious.
5	Do. ...	Do. ...	Public Standard in the City ...	2·9	0·42	0·005	0·08	Very scanty—Vegetable debris, Paramecia, Rotifers.	Do.
6	25th Do. ...	Bombay (Colába.)	Macnamara Filter in European Infantry Barracks.	7·7	0·98	·16	0·30	Vegetable debris, Confervæ, Diatoms.	Bad.
7	13th July ...	Mhow ...	Well No. 11	61·6	5·25	0·003	0·09	Scanty—Vegetable debris, Monads, Paramecia.	Do.
8	Do. ...	Do. ...	Do. ,, 15	28	2·2	0·008	0·08	Very scanty—Vegetable debris, no Infusoria.	Good.
9	Do. ...	Do. ..	Do. ,, 18	32·2	2·3	0·01	0·10	Very scanty—Vegetable debris, Paramecia.	Do.
10	Do. ...	Do. ...	Do. ,, 14 A	39·9	2·2	0·02	0·12	Scanty—Vegetable debris, Monads, Paramecia, crystals of mineral matter.	Fair.
11	14th Do. ...	Do. ...	Do. in compound of 17th Lancers' Officers' Mess.	39·9	3·9	0·02	0·15	Vegetable debris, Monads, Paramecia, Vorticella.	Bad.
12	Do. ...	Do. ...	Do. No. 13	51·1	4·5	0·01	0·12	Scanty—Vegetable debris, Monads, Paramecia, Vorticella.	Do.
13	Do. ..	Do. ...	Do. ,, 9	31·2	2·8	0·008	0·11	Vegetable debris, Paramecia ...	Good.
14	16th Do. ...	Dó. ...	Macnamara Filter in Lancers' Hospital.	30	2	Nil.	0·08	Very scanty—Vegetable debris.	Fair.
15	Do. ...	Do. ...	Chatty Filter in do. ...	31	2·6	0·008	0·07	Do. do. ...	Do.
16	26th Do. ...	Do. ...	Well No. 14	33·6	2·17	0·01	0·08	Vegetable debris, Monads, Paramecia, Diatoms.	Good.
17	Do. ...	Do. ...	Do. ,, 12	28	2·3	0·01	0·08	Scanty—Vegetable debris, Monads, Paramecia.	Do.
18	27th Do. ...	Do. ..	Do. ,, 35	25·2	1·3	0·005	0·09	Very scanty—Vegetable debris, Monads.	Do.
19	28th Do. ...	Do. ...	Do. ,, 28	44·1	3·4	0·008	0·09	Very scanty—Vegetable debris, crystals of mineral matter, no Infusoria.	Do.
20	Do. ...	Do. ...	Do. ,, 38	18·2	2·3	0·01	0·08	Very scanty—Vegetable debris, no Infusoria.	Do.
21	Do. ...	Do. ...	Do. ,, 39	34·3	2·8	0·008	0·08	Do. do. ..	Do.
22	29th Do. ...	Do. ...	Do. ,, 43	20·3	0·77	0·02	0·09	Very scanty—Vegetable debris, Paramecia.	Do.
23	Do. ...	Do. ...	Do. ,, 41	25·2	0·91	0·008	0·08	Very scanty—Vegetable debris, Monads, Paramecia.	Do.
24	Do. ...	Do. ...	Do. ,, 22	25·2	1·4	0·005	0·06	Very scanty—Vegetable debris, Entomostraca.	Do.
25	Do. ...	Do. ...	Do. ,, 22 A	28·8	1·6	0·008	0·06	Very scanty—Vegetable debris, no Infusoria.	Do.
26	30th Do. ...	Do. ...	Do. ,, 39	21	4·27	0·04	0·11	Very scanty—Vegetable debris, Paramecia, Entomostraca.	Fair.
27	Do. ...	Do. ...	Do. in compound of Ice Factory	28·7	2·3	0·01	0·08	Very scanty—Vegetable debris, Monads.	Good.
28	Do. ...	Do. ...	Nála behind Ice Factory ...	18·2	1·4	0·04	0·15	Copious—Vegetable debris, Monads, Paramecia	Bad.
29	Do. ...	Do. ...	Well in compound of 17th Lancers' Officers' Mess (re-examined).	39·9	3·9	0·04	0·08	Vegetable debris, Paramecia, Entomostraca.	Fair.
30	Do. ..	Do. ...	Carbon Filter	35	3	Nil.	0·03	Nil	Good.
31	Do. ...	Do. ...	Lancers' Block No. 2, Macnamara Filter.	26·5	2	0·001	0·03	Nil	Do.
32	Do. ...	Do. ...	Do. Barrack-room No. 1 do.	26·9	2·1	0·002	0·04	Nil	Do.
33	Do. ...	Do. ...	Guard-room No. 1, Macnamara Filter.	27	2·2	0·003	0·06	Nil	Do.
34	Do. ...	Do. ...	29th Regiment Hospital Filter .	48·2	4·02	0·003	0·07	Nil	Do.
35	Do. ...	Do. ...	Lancers' Patcherry No. 1 do. ...	26·3	2	0·002	0·02	Nil	Do.
36	Do. ...	Do. ...	13th Regiment N. I. Hospital...	59·5	5·5	0·04	0·07	Very scanty—Vegetable debris, Paramecia.	Bad.
37	Do. ...	Do. ...	Well No. 4	85·4	10	0·04	0·09	Scanty—Vegetable debris, crystals of carbonate of lime.	Do.
38	Do. ...	Do. ..	Do. ,, 3	88·2	11·2	0·08	0·09	Vegetable debris, Paramecia, Bursarina, Rotifers.	Do.
39	Do. ...	Do. ...	Do. ,, 5	33·6	2·03	0·04	0·10	Vegetable debris, Monads, Paramecia.	Fair.
40	Do. ...	Do. ...	Do. ,, 2	40·5	2·5	0·03	0·13	Vegetable debris, Monads, Paramecia.	Do.
41	Do. ...	Do. ...	Do. ,, 34	32·9	1·4	0·04	0·11	Vegetable debris, Monads, Paramecia, Rotifers.	Bad.
42	31st Do. ...	Do. ...	Well, Cooverji Pestonji's ...	45·5	3·3	0·01	0·11	Scanty—Vegetable debris, Paramecia.	Fair.

Samples of Water, analysed by Assistant Surgeon J. A. DeSouza, Travelling Water Analyst, Sanitary Department, Bombay—continued.

Number of Samples.	Date.	Station.	Source.	Grains per Gallon.		Parts per Million.		Sediment, &c.	Quality.
				Total Solids.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.		
43	31st July ...	Mhow ...	Well, Cursetji Furdunji's ...	40·6	3·2	0·02	0·07	Vegetable debris—Paramecia, Entomostraca.	Good.
44	Do. ...	Do. ...	Do. No. 20 (Hormusji Rustomji's).	107·5	7·7	0·01	0·09	Very scanty—Vegetable debris, Paramecia.	Bad.
45	Do. ...	Do. ...	Do. ,, 2 (Sorabji Dadabhoy's).	45·5	3·01	0·01	0·07	Scanty—Vegetable debris, Paramecia.	Fair.
46	Do. ...	Do. ...	Do. ,, 14 (in compound of Agiary).	51·8	3·01	0·03	0·08	Very scanty—Vegetable debris, Monads, Paramecia.	Bad.
47	1st August ...	Do. ...	Do. ,, 26 (Ratonji Nanabhoy's).	35·7	2·03	0·02	0·11	Very scanty—Vegetable debris, Monads, Paramecia.	Good.
48	Do. ...	Do. ...	Do. ,, 106 (in compound of Distillery).	165·9	30·5	0·04	0·16	Vegetable debris, Paramecia, Vorticella.	Bad.
49	Do. ...	Do. ...	Do. ,, 77 (Sweepers') ...	128·1	18·2	0·03	0·16	Scanty—Vegetable debris, Monads, Paramecia.	Do.
50	Do. ...	Do. ...	Do. ,, 32 (Bázár Chowdree's)	98	9·3	0·02	0·10	Copious—Vegetable debris, Monads, Paramecia.	Do.
51	Do. ...	Do. ...	Do. ,, 51 (Chamar Committee's).	214·9	30·2	0·05	0·13	Copious—Vegetable debris, Paramecia.	Do.
52	2nd Do. ...	Do. ...	Do. behind Merwanji Cooverji's house.	56·7	3·9	0·02	0·15	Copious—Vegetable debris, Paramecia, Rotifers.	Do.
53	Do. ...	Do. ...	Do. No. 27 (Vakil's) ...	37·8	3·3	0·01	0·07	Very scanty—Vegetable debris, Paramecia.	Good.
54	Do. ...	Do. ...	Do. Heeralal's in Gokul Khand	138·6	18·2	0·10	0·19	Scanty—Vegetable debris, Monads, Paramecia Rotifers.	Bad.
55	4th Do. ...	Do. ...	Do. Bakery Road... ...	119·7	18·5	0·01	0·24	Vegetable debris, Monads, Paramecia, Rotifers.	Do.
56	Do. ...	Do. ...	Do. Purshotam's, in Garden ...	28	2·8	0·03	0·07	Vegetable debris, Monads, Paramecia.	Good.
57	Do. ...	Do. ...	Do. Dorabji's, in Garden ...	39·2	4·2	0·08	0·08	Vegetable debris, Monads, Paramecia, Rotifers.	Bad.
58	6th Do. ...	Do. ...	Do. in Merwanji Cooverji's Garden.	67·2	8·1	0·05	0·11	Scanty—Vegetable debris, Paramecia.	Do.
59	Do. ...	Do. ...	Do. behind Merwanji Cooverji's house.	55·7	3·9	0·005	0·07	Scanty—Vegetable debris, Paramecia.	Do.
60	7th Do. ...	Do. ...	Do. Cantonment No. 9 ...	123·9	4·76	0·02	0·11	Scanty—Vegetable debris, Monads, Paramecia.	Do.
61	Do. ...	Do. ...	Do. do. ,, 5 ...	55·3	13·6	0·01	0·10	Copious—Vegetable debris, Monads, Paramecia.	Do.
62	8th Do. ...	Do. ...	Do. do. ,, 34 ...	28·7	0·84	0·01	0·06	Very scanty—Vegetable debris, Paramecia.	Good.
63	Do. ...	Do. ...	Do. do. ,, 28 in Salean Mollah.	125·3	19·2	0·04	0·10	Scanty—Vegetable debris, Paramecia, Monads.	Bad.
64	Do. ...	Do. ...	Do. do. No. 27 in do.	164·5	23·3	0·02	0·11	Scanty—Vegetable debris, Monads, Paramecia, Entomostraca.	Do.
65	Do. ...	Do. ...	Do. do. No. 30 in Government Garden.	40·6	3·01	0·02	0·09	Scanty—Vegetable debris, Paramecia.	Good.
66	9th Do. ...	Do. ...	Do. do. No. 12 ...	261·1	37·8	0·05	0·15	Vegetable debris—Paramecia, Rotifers.	Bad.
67	Do. ...	Do. ...	Do. do. ,, 23 in Gokul Khand.	140	17·9	0·05	0·19	Vegetable debris—Paramecia, Vorticella, Rotifers.	Do.
68	10th Do. ...	Do. ...	Do. do. ,, 22 in do. ...	173·6	23·4	0·02	0·12	Scanty—Vegetable debris, Paramecia.	Do.
69	Do. ...	Do. ...	Do. do. ,, 11 ...	197·4	28	0·05	0·21	Vegetable debris—Paramecia, Rotifers.	Do.
70	Do. ...	Do. ...	Do. do. ,, 10 ...	163·8	23·8	0·01	0·15	Vegetable debris—Paramecia, Monads.	Do.
71	19th Do. ...	Do. ...	Do. do. ,, 3 ...	44·9	4·2	0·02	0·11	Copious—Vegetable debris, Paramecia, Rotifers.	Do.
72	20th Do. ...	Indore ...	Barrack Well	30·8	1·5	0·008	0·08	Scanty—Vegetable debris, Paramecia, Vorticella,	Good.
73	Do. ...	Do. ...	Well, Royal Engineer's ...	23·8	2·8	0·01	0·08	Scanty—Vegetable debris, Paramecia.	Do.
74	Do. ...	Do. ...	Do. Cowasji Contractor's ...	63·4	5·6	0·008	0·08	Scanty—Vegetable debris, crystals of mineral matter.	Bad.
75	21st Do. ...	Do. ...	Do. Residency	30·8	1·1	0·005	0·12	Vegetable debris—Paramecia, Rotifers.	Do.
76	Do. ...	Do. ...	Do. Agency Hospital ...	41·3	2·5	0·02	0·10	Vegetable debris—Monads, Paramecia.	Good.
77	Do. ...	Do. ...	Do. Central India Horse ...	69·3	7	0·005	0·08	Scanty—Vegetable debris, Paramecia, crystals of mineral matter.	Bad.
78	22nd Do. ...	Do. ...	Do. Cattle-pound	35	2·5	0·04	0·13	Vegetable debris—Paramecia, crystals of mineral matter.	Fair.
79	Do. ...	Do. ...	Do. Native Infantry (behind the Lines.)	26·6	2·5	0·05	0·11	Scanty—Vegetable debris, Paramecia.	Good.
80	Do. ...	Do. ...	Do. Old Kotváli	162·4	20·7	0·02	0·14	Vegetable debris—Paramecia, crystals of mineral matter.	Bad.
81	23rd Do. ...	Do. ...	Do. Bhopal Battalion ...	73·5	7·5	0·03	0·08	Copious—Vegetable debris, Paramecia, crystals of mineral matter.	Do.

Samples of Water analysed by Assistant Surgeon J. A. DeSouza, Travelling Water Analyst, Sanitary Department, Bombay.

Number of Samples.	Date.	Station.	Source.	Grains per Gallon.		Parts per Million.		Sediment, &c.	Quality.
				Total Solids.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.		
82	23rd August...	Mhow ...	Well, Native Infantry, near Hospital.	26·6	2·2	0·02	0·10	Scanty—Vegetable debris, Paramecia.	Good.
83	Do. ...	Do. ...	Do. Opium Godown... ...	31·5	2·3	0·08	0·13	Copious—Vegetable debris, Paramecia, Rotifers.	Bad.
84	24th August...	Mhow ...	P. W. D. Well No. 21	28·7	2·5	0·02	0·11	Vegetable debris, Paramecia ...	Good.
85	Do. ...	Do. ...	Do. do. ,, 21 A. ...	39·2	3·6	0·02	0·10	Vegetable debris, Paramecia ...	Do.
86	Do. ...	Do. ...	Do. do. ,, 24	46·9	4·2	0·04	0·10	Scanty— Vegetable debris, Paramecia, dyed cotton fibres.	Fair.
87	Do. ..	Do. ...	Do. do. ,, 34	25·2	1·9	0·02	0·07	Very scanty—Vegetable debris, Paramecia, dyed cotton fibres.	Good.
88	25th Do. ...	Do. ...	Do. No. 34, supplying Native Infantry.	88·2	11·3	0·02	0·09	Vegetable debris—Paramecia, Vorticella.	Bad.
89	26th Do. ...	Do. ...	Ice supplied to Lancers' Hospital.	11·2	0·84	0·06	0·17	Copious—abundance of crystals of mineral matter, chiefly carbonate of lime.	Do.
90	2nd Sept. ...	Do. ...	Well opposite Artillery Barracks.	19·6	1·12	0·01	0·06	Scanty—Vegetable debris, Paramecia.	Good.
91	Do. ...	Do. ...	Do. Commissariat, near Lock Hospital.	32·2	2·8	0·01	0·08	Very scanty—Vegetable debris, Paramecia.	Do.
92	12th Do. ...	Ahmednagar...	Tank, supplying 2/7th Depôt Hospital.	18·9	1·05	0·008	0·05	Very scanty—Vegetable debris, Monads, crystals of mineral matter.	Do.
93	Do. ...	Do. ...	Do. behind Patcherries, supplying European Infantry.	18·9	1·05	0·006	0·05	Very scanty—Vegetable debris, Monads, crystals of mineral matter.	Do.
94	13th Do. ...	Do. ...	Do. supplying Royal Artillery .	18·9	1·05	0·01	0·08	Scanty—Vegetable debris, Monads, crystals of mineral matter.	Do.
95	14th Do. ...	Do. ...	Soldiers' Garden Well	33·6	1·82	0·05	0·05	Scanty—Vegetable debris, Paramecia, crystals of mineral matter.	Fair.
96	16th Do. ...	Do. ...	Tank inside Fort, near the large Arms Magazine.	42·7	2·1	0·01	0·08	Scanty—Vegetable debris, Monads, Paramecia.	Do.
97	17th Do. ...	Do. ...	Well in compound of Lieutenant Anderson's Bunaglow.	21	0·98	0·02	0·11	Scanty—Vegetable debris, Monads, Paramecia.	Do.
98	Do. ...	Do. ...	Do. in City, near Jail, supplied with water from Nagabai's Reservoir.	22·5	1·04	0·02	0·06	Scanty—Vegetable debris, Paramecia.	Good.
99	18th Do. ..	Do. ...	Do. in Native Infantry Lines, supplied with water from Khappedwady Reservoir.	19·6	0·84	0·05	0·18	Copious—Vegetable debris, Paramecia, Rotifers.	Bad.
100	Do. ...	Do. ...	Sample of water from the Jail (Wargaon Reservoir.)	49·7	2·8	0·01	0·08	Very scanty—Vegetable debris, Monads.	Good.
101	Do. ...	Do. ...	Tank in City, near the Market, fed by Dharewady and Khafferwady Reservoirs.	25·2	1·04	0·06	0·22	Copious—Vegetable debris, Monads, Paramecia, Rotifers.	Bad.
102	Do. ...	Do. ..	Macnamara Filter in 2/7th Depôt Hospital.	16	1	0·001	0·03	Nil	Good.
103	Do. ...	Do. ...	Do. do. in No. 1 Barrack-room.	16·5	1·01	0·002	0·04	Nil	Do.
104	Do. ...	Do. ...	Do. do. No. 3 do....	16·4	1·01	0·002	0·03	Nil	Do.
105	1st October ...	Yeoti ...	Well supplying Jail	27·3	1·5	0·01	0·10	Scanty—Vegetable debris, Paramecia.	Do.
106	Do. ...	Do. ...	Cunari Nála	11·2	1·19	0·01	0·13	Copious—Vegetable debris, Paramecia.	Fair.
107	Do. ...	Do. ...	Nursooappa's Well	34·3	2·7	0·02	0·14	Scanty—Vegetable debris, Paramecia.	Do.
108	2nd Do. ...	Do. ...	Cunari Nála (re-examined) ...	11·2	1·19	0·01	0·13	Copious—Vegetable debris, Paramecia.	Do.
109	16th Do. ...	Islámpur ...	Fakir, or Uran Tank	11·20	1·12	0·10	0·25	Copious—Vegetable debris, Monads, Paramecia, Rotifers, Asscaris, Lumbrecoides.	Bad.
110	17th Do. ...	Do. ...	Fulbag do.	11·9	1·6	0·05	0·20	Copious—Vegetable debris, Monads, Paramecia, Rotifers.	Do.
111	Do. ...	Do. ...	Mantrees do.	10·5	1·4	0·05	0·20	Copious—Vegetable debris, Monads, Paramecia, Rotifers.	Do.
112	18th Do. ...	Do. ...	New Tank	27·3	1·6	0·04	0·16	Copious—Vegetable debris, Monads, Paramecia, Rotifers.	Do.
113	20th Do. ...	Do. ...	Viade's Well	18·2	2·2	0·28	0·27	Scanty—Vegetable debris, Monads, Paramecia, Rotifers.	Do.
114	23rd Do. ..	Nerla ..	Beheru bin Naiku Patel's Well.	51·8	11·2	0·08	0·16	Copious—Vegetable debris, Monads, Paramecia.	Do.
115	Do. ...	Do. ...	Appa bin Mahadu Navi's do. ...	72·8	14·5	0·12	0·14	Copious—Vegetable debris, Monads, Paramecia.	Do.
116	24th Do. ..	Do. ...	Babaji bin Baguji Dawlutrao's Well.	42·	10·8	0·10	0·13	Copious—Vegetable debris, Paramecia, Filaria Medinensis.	Do.
117	28th Do. ...	Sátára ...	Mordera Tank	16·3	1·12	0·01	0·22	Scanty—Vegetable debris, Monads, Paramecia.	Do.
118	29th Do. ...	Do. ...	Mangalwar do.	9·1	1·12	0·01	0·21	Scanty—Vegetable debris, Monads, Paramecia.	Do.
119	10th Nov. ...	Karáchi ..	Napier Well	79·4	29·4	0·008	0·08	Scanty—Vegetable debris, Monads, Paramecia.	Do.

Samples of Water analysed by Assistant Surgeon J. A. DeSouza, Travelling Water Analyst, Sanitary Department, Bomay—continued.

Number of Samples.	Date.	Station.	Source.	Grains per Gallon.		Parts per Million.		Sediment, &c.	Quality.
				Total Solids.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.		
120	10th Nov.	Karáchi	Napier Well, Filtered water	77·7	28·7	0·02	0·09	Very scanty—Vegetable debris, Monads.	Bad.
121	25th Do.	Ahmedabad	River Sábarmati at Hánsot	31·6	4·76	0·002	0·12	Vegetable debris—Paramecia, Rotifers.	Do.
122	Do.	Do.	Do. do. Mortera	31·	4·76	0·002	0·10	Vegetable debris—Paramecia, crystals of carbonate of lime.	Good.
123	Do.	Do.	Do. do. Ached	31·2	4·76	0·002	0·13	Vegetable debris—Paramecia, crystals of carbonate of lime.	Fair.
124	26th Do.	Do.	Do. do. Dhudeshwar	31·2	4·76	0·005	0·13	Vegetable debris—Paramecia, Rotifers.	Bad.
125	Do.	Do.	Do. do. opposite well supplying Cotton Mill.	32·2	5·67	0·01	0·16	Copious—Vegetable debris, Monads, Paramecia, Rotifers.	Do.
126	Do.	Do.	Well in bed of river, supplying Cotton Mill.	32·2	5·67	0·005	0·15	Copious—Vegetable debris, Monads, Paramecia, Rotifers.	Do.
127	28th Do.	Do.	Pipe supplying Cotton Mill	32·2	5·67	0·01	0·19	Copious—Vegetable debris, Paramecia, Rotifers.	Do.
128	29th Do.	Do.	River Sábarmati at Supta Rishi's Ghát.	33·9	5·67	0·02	0·28	Copious—Vegetable debris, Monads, Paramecia, Rotifers, oil globules, dyed cotton fibres.	Do.
129	30th Do.	Do.	Khás Bázár Reservoir	30·5	5·46	0·01	0·13	Very scanty—Vegetable debris, Paramecia.	Fair.
130	1st Dec.	Do.	Rain-water Cistern in Ráo Bahádur Ranchodlal's house.	10·5	1·96	0·01	0·19	Very scanty—Vegetable debris, Paramecia.	Bad.
131	2nd Do.	Do.	Do. do. in Municipal Secretary's house.	6·2	0·98	0·02	0·13	Very scanty— Vegetable debris, Paramecia.	Fair.
132	3rd Do.	Do.	Kankeria Tank	18·2	3·6	0·08	0·26	Very scanty—Vegetable debris, Paramecia.	Bad.
133	13th Do.	Neemuch	Well near Travellers' Bungalow, supplying Jail.	25·2	1·54	0·01	0·09	Very scanty—Vegetable debris, crystals of mineral matter.	Good.
134	Do.	Do.	Do. No 7 in Native Cavalry Lines.	30·8	3·5	0·02	0·11	Scanty—Vegetable debris, Paramecia crystals of mineral matter.	Do.
135	14th Do.	Do.	Do. No. 8 in do. do.	26·6	2·1	0·01	0·08	Vegetable debris—Paramecia, Vorticella.	Do.
136	Do.	Do.	Cavalry Hospital, No. 2	35·7	2·8	·002	·08	Very scanty—Vegetable debris, Paramecia.	Do.
137	15th Do.	Do.	Well in front of Cavalry Orderly-room.	31·5	10·2	0·008	0·07	Very scanty—Vegetable debris, Paramecia.	Fair.
138	Do.	Do.	Do. No. 5	66·5	10·3	0·01	0·11	Very scanty—Vegetable debris, crystals of carbonate of lime.	Bad.
139	16th Do.	Do.	Do. No. 6	67·2	9·3	0·01	0·11	Very scanty—Vegetable debris, Paramecia.	Do.
140	Do.	Do.	Do. No. 12, Native Infantry.	18·9	4·6	0·005	0·10	Very scanty—Vegetable debris, crystals of carbonate of lime.	Good.
141	17th Do.	Do.	Do. Native Infantry Hospital	25·2	1·1	0·005	0·08	Scanty—Vegetable debris, crystals of mineral matter.	Do.
142	Do.	Do.	Do. No. 37, between Royal Artillery and European Infantry Barracks.	29·4	2·8	0·002	0·06	Very scanty—Vegetable debris.	Do.
143	18th Do.	Do.	Do. No. 37 (Plunge Bath)	36·4	2·24	0·01	0·09	Very scanty—Vegetable debris.	Do.
144	Do.	Do.	Do. No. 38, Station Hospital Filter.	30·1	2·1	0·002	0·06	Do. do. do.	Do.
145	19th Do.	Do.	Macnamara Filter in Station Hospital.	28·4	2	Nil.	0·04	Nil	Do.
146	20th Do.	Do.	Well, Yidga, in Bázár	51·8	8·05	0·005	0·07	Very scanty—Vegetable debris, Paramecia, Vorticella.	Fair.
147	Do.	Do.	Do. Mohánki Barree's.	41·6	5·6	0·008	0·09	Vegetable debris—Paramecia.	Do.
148	5th Jan. 1881.	Nasirabad	Dhilwarra Well	28	3·5	0·02	0·14	Scanty—Vegetable debris, Monads, Paramecia, Vorticella, Rotifers.	Bad.
149	6th Do.	Do.	Macnamara Filter in Artillery Hospital	25·9	3	0·005	0·06	Nil	Good.
150	7th Do.	Do.	Do. do. Barrack No. 1	26·8	3·2	0·01	0·08	Very scanty—Vegetable debris...	Fair.
151	8th Do.	Do.	Do. do. Patcherry	26·9	3·4	0·02	0·09	Do. do. do.	Do.
152	Do.	Do.	Do. do. Barrack-room No. 3.	26·	3·2	0·08	0·07	Do. do. do.	Do.
153	11th Do.	Do.	Dhiggy Tank	14	2·1	0·18	0·40	Copious—Vegetable debris, Paramecia, Monads, Rotifers	Bad.
154	14th Do.	Do.	Fountain fed by Danta Lake	15·4	4·2	0·13	0·25	Copious—Vegetable debris, Monads, Paramecia, Entomostraca.	Do.
155	15th Do.	Do.	Stand-pipe in N. I. Lines fed by Danta Lake.	15·4	4·2	0·10	0·24	Copious—Vegetable debris, Monads, Paramecia, Entomostraca.	Do.
156	16th Do.	Do.	Danta Lake	15·4	4·2	0·24	0·32	Copious—Vegetable debris, Paramecia, Entomostraca, Rotifers.	Do.
157	18th Do.	Do.	Well No. 44 in Artillery Horse Lines.	446	123·2	0·16	0·34	Copious—Vegetable debris, Paramecia, Rotifers.	Do.

Samples of Water analysed by Assistant Surgeon J. A. DeSouza, Travelling Water Analyst, Sanitary Department, Bombay—continued.

Number of Samples.	Date.	Station.	Source.	Grains per Gallon.		Parts per Million.		Sediment, &c.	Quality
				Total Solids.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.		
158	18th Jan. 1881.	Nasirabad ...	Well on Infantry Parade Ground.	47·6	5·6	0·02	0·12	Scanty—Vegetable debris, Monads, crystals of carbonate of lime.	Fair.
159	19th Do. ...	Do. ...	Well No. 36	270·9	70	0·01	0·23	Scanty—Vegetable debris, crystals of carbonate of lime.	Bad.
160	20th Do. ...	Do. ...	Macnamara Filter in Infantry Barrack-room No. 27.	39·2	3·5	0·09	0·13	Scanty—Vegetable debris, Entomostraca, crystals of carbonate of lime.	Do.
161	21st Do. ...	Do. ...	Do. do. No. 1 Hospital...	25·6	3	0·01	0·04	Nil	Good.
162	Do. ...	Do. ...	Do. do. Canteen	26	3·3	0·01	0·08	Very scanty—Vegetable debris.	Fair.
163	22nd Do. ...	Do. ...	Do. do. Band-room ...	26·1	3·2	0·02	0·08	Do. do. do. ...	Do.
164	Do. ...	Do. ...	Do. do. Patcherry No. 5..	26·3	3·3	0·01	0·09	Very scanty—Vegetable debris. Paramecia.	Bad.
165	23rd Do. ...	Do. ...	Do. do. Barrack-room No. 19.	25·8	3·1	0·01	0·08	Very scanty—Vegetable debris.	Fair.
166	24th Do. ...	Do. ...	Do. do. No. 24 ...	29·2	3·5	0·08	0·14	Scanty—Vegetable debris, Paramecia, Rotifers.	Bad.
167	25th Do. ...	Do. ...	Do. do. No. 2 in Infantry Hospital.	25·6	3·1	0·01	0 03	Nil	Good.
168	15th Feb. ...	Pandharpur ...	Tank by side of Tower	11·45	1·89	0·003	0·40	Copious—Vegetable debris, Confervaceæ, Oscillatoriaceæ, Diatomaceæ, Desmideaceæ, Rhizopoda Baeteria, Rotifers, Coleoptera, Hemiptera, Annelida, dyed cotton fibres.	Bad.
169	16th Do. ...	Do. ...	Service Reservoir in Town ...	11·45	2	0·17	0·32	Copious—Vegetable debris, dyed cotton fibres, Confervaceæ, Oscillatoriaceæ, Desmideaceæ, Diatomaceæ, Rotifers, Rhizopoda Monadina, Coleoptera.	Do.
170	17th Do. ...	Do. ...	Stand-pipe No. 1 in Town ...	11·45	2	0·16	0·33	Same as above	Do.
171	19th Do. ...	Do. ...	Do. ,, 2 do.	11·45	2	0·16	0·35	Do. do.	Do.
172	22nd Do. ...	Do. ...	Do. in Wadha	11·45	2	0·17	0·36	Do. do.	Do.
173	23rd Do. ...	Do. ...	Service Reservoir after being cleaned out.	11·45	1·9	0·02	0·25	Copious—Vegetable debris, Monads, Paramecia, Rotifers, Entomostraca, Coleoptera.	Do.
174	24th Do. ..	Do. ...	Reservoir water, passed through a chatty filter.	11·45	1·9	0·01	0·20	Vegetable debris,—Monads, Paramecia, Rotifers.	Do.
175	25th Do. ...	Do. ...	Nála by side of Tákli village ...	31·3	19·1	0·10	0·70	Copious—Vegetable debris, Monads, Diatoms, Desmideaceæ, Oscellatoriaceæ, Confervaceæ, Rhizopoda, Coleoptera, Hemiptera, Annelida.	Do.
176	26th Do. ...	Do. ...	Dokee's Well	35·2	2·17	0·08	0·25	Copious—Vegetable debris, Monads, Diatoms, Paramecias, Rotifera, Entomostraca.	Do.
177	Do. ...	Do. ...	Yessoo Narayan's Well ...	41·5	10·2	0·005	0·12	Scanty—Vegetable debris, Monads, Paramecia.	Fair.
178	27th Do. ...	Do. ...	Bhima River (Up-stream) ...	20·3	1·4	0·005	0·13	Scanty—Vegetable debris, Monads, Paramecia.	Do.
179	Do. ...	Do. ...	Bhima River (Down-stream) ...	23·5	4·29	0·13	0·36	Copious—Vegetable debris, Monads, Paramecia, Rotifera, Anguillala, Fulvialis.	Bad.
180	.....	Neemuch ...	Leora Tank	16·8	6·12	·21	·74	Copious—Vegetable debris, Paramecia, Rotifers.	

AHMEDABAD.

Water-supply.

During the past year the question of water-supply was again before Government. The Superintending Engineer for Irrigation had submitted a scheme—distinguished as No. 3—in which it was proposed to sink wells in the river bed at Dudeshwar, and take the water to the present Pumping Station. This scheme was forwarded to the Collector; was discussed at a General Meeting of the Municipality, and was referred to a Sub-Committee to be reported on in twelve months. After much inquiry and local examination, the Sub-Committee came to the conclusion, that, for various reasons, the scheme should not be accepted. They recognized the desirability of improving the supply, but pointed out, that any addition to it should be preceded, or accompanied, by an adequate provision for increased drainage; and the two together would probably cost 5 lakhs—a

W. F. Sinclair, Esq., C.S., *Chairman.*
Bachardas Ambaidas, C.S.I.,
Mr. Runchorlal Chotilal,
Baxshahi Diyan Najáfali,
} *Members.*

sum beyond their means. It was possible that the improved communications might lead to a concentration of troops at Ahmedabad, and a large Railway town was springing up at the Sábarmati junction; and both town and camp were up-stream with reference to the proposed point of supply. They found too, that by analysis there was no great difference between the water now in use, and that drawn at the Railway well higher up-stream; so it might be assumed, that the quality at a lower point would not be better.

The Municipality adopted these views, and at this stage of the question I was directed to report to Government as to the character of the water at the present, and the proposed source of supply; and whether the latter would be likely to be effected by an increase to the Cantonment, or by the Sábarmati junction population.

Having made a special visit to Ahmedabad, and having gone into the question very thoroughly, with the great assistance of Mr. Sinclair's local knowledge, I am bound to say there are valid objections to any scheme which takes Dudeshwar as the point of supply; and to any scheme which would draw from any point below Hánsol. Samples have been obtained, and analysed on the spot, at intermediate points between Hánsol up-stream and the Supta Rishi's Ghát down-stream below the city; and the results are here given:—

Results of the Examination of Samples of Sábarmati River and Tank water at Ahmedabad, Bombay, 7th December 1880.

Number of Samples.	Date.	Source.	Grains per Gallon.		Parts per Million.		Sediments, &c.	Remarks.
			Total Solids.	Chlorine	Free Ammonia.	Albuminoid Ammonia.		
1	25th Nov. 1880.	River Sábarmati at Hánsol ..	31·6	4·76	·002	.12	Vegetable debris—Paramecia Rotifers,	Bad.*
2	Do. ..	Do. do. Mortera ..	[31	4·76	·002	·10	Do. do. crystals of carbonate of lime ..	Good
3	Do. ..	Do. do. Ached ..	31·2	4·76	·002	·13	Do. do. do. ..	Fair
4	26th Do. ..	Do. do. Dudeshwar ..	31·2	4·76	·005	·13	Do. do. Rotifers.	Bad.
5	Do. ..	Do. do. opposite Well supplying Cotton Mill.	32·2	5·67	·01	·16	Copious—Vegetable debris, Monads, Paramecia and Rotifers ..	Do.
6	Do. ..	Well in bed of river supplying Cotton Mills	32·2	5·67	·005	·15	Do. do. do. ..	Do.
7	Do. ..	Pipe supplying Cotton Mills ..	32·2	5·67	·01	·19	Do. do. Paramecia,	
8	Do. ..	River Sábarmati at Supta Rishi's Ghát	33·9	5·67	·02	·28	Do. do. Monads, Paramecia, and Rotifers, oil globules, dyed cotton fibres ..	Rotifers .. Do. Do.
9	30th Do. ..	Khas Bázár Reservoir	30·5	5·46	·01	·18	Very scanty do. Paramecia..	Fair.
10	1st Dec. ..	Rain water cistern in Ráo Bahádur Ranchodlal's House ..	10·5	1·96	·01	·19	Do. do. do. ..	Bad.
11	2nd Do. ..	Do. do. in Municipal Secretary's House.	6·2	·98	·02	·13	Do. do. do. ..	Fair.
12	3rd Do. ..	Kankeria Tank	18·2	3·6	·08	·26	Do. do. do. ..	Bad.

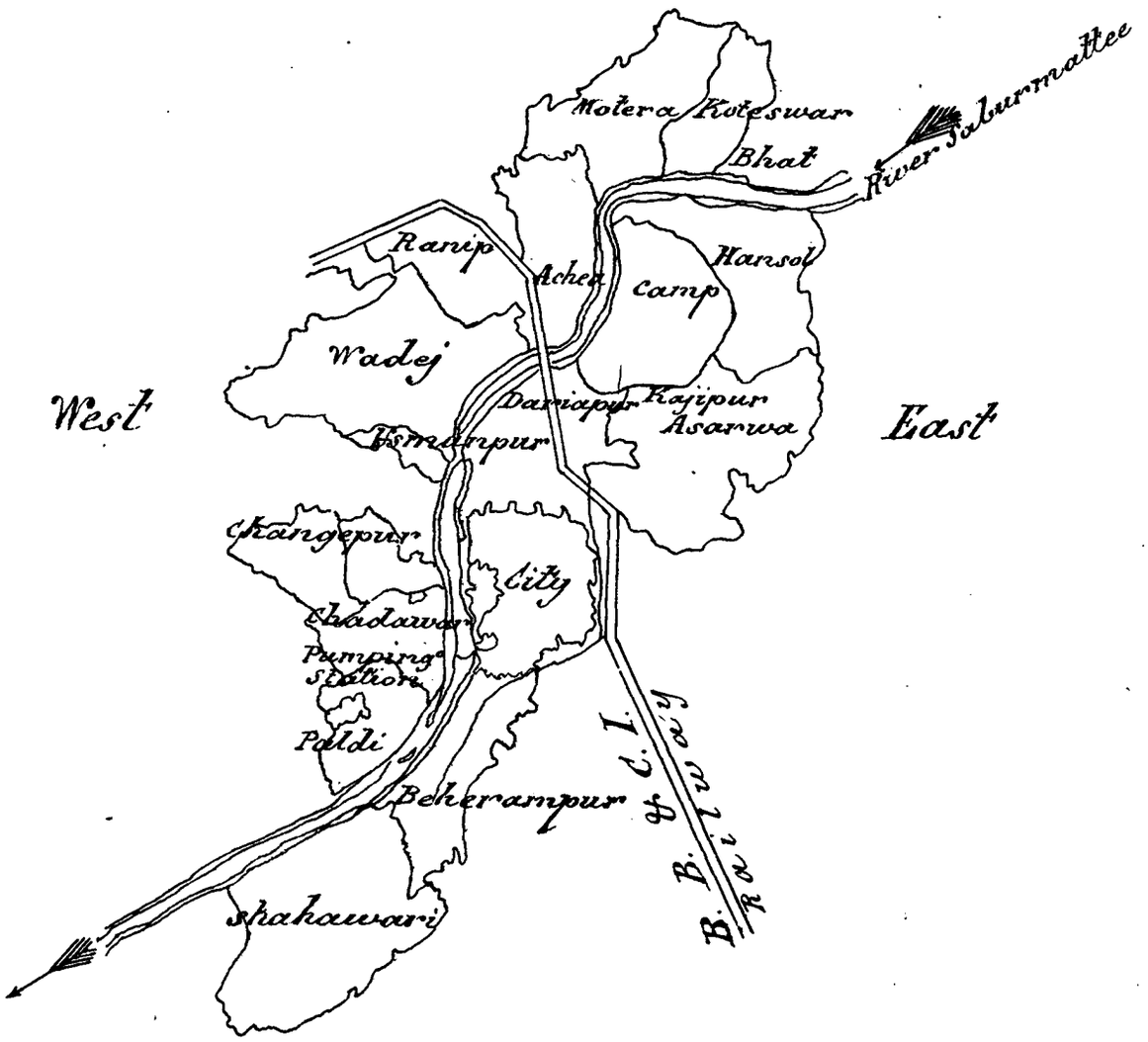
* The quality of this sample was affected by a patch of river bed cultivation immediately above it up-stream. If the place were selected as a point of supply, all such sources of impurity would of course be prevented.

A tracing is also given, and it shows the relative positions of the various places. It will be seen that on the right bank, up-stream, are the villages of Acher, Motera Kotesar, and Bhat. Their collective population is 2,417, and in Acher there are 63 dyers' houses—the vats draining into the river. In the dry season the operations extend to Motera. Below these is the Cantonment with its bázár overhanging the left bank. Then comes Dudeshwar, which from time immemorial—for hundreds of years—has been a burning and burial ground, and is so still, so clearly this is not a desirable point of supply. Were there any doubt as to the extent to which the river is polluted, it would be dispelled by a visit to the Ghát below the city. There is no actual out-fall into the river, and yet, standing at the Ghát, there may be seen a long dark belt sweeping round its steps as black and foul as that at the mouth of a main sewer. The accumulated impurities between that point and the villages up-stream: in fact, there is no part of the river near the city at which the pollution is not perfectly appalling. Until such time as the Municipality can undertake to draw its supply from above

Sketch

Shewing course of Saburmattee River at Ahmedabad

North



South

Scale of 2 Miles to an Inch

2 1 0 2 4 6

Govt Photozinco: Office, Poona, 1881

Hánsol; or from the Kankeria Tank fed by the Khári cut, augmented perhaps by the Bokh scheme, I would recommend that all their endeavours be directed to improving their present supply. This can be done most effectively by providing a well similar to that at the Railway pumping station near the Shah-i-bagh, by improved filtration, by substituting iron for earthen-ware pipes, and by a stricter river conservancy. With regard to the increasing numbers at the Sábarmati junction, there will always be Europeans thoroughly versed in matters of surface conservancy, and there need be no apprehension that the place will be permitted to become a source of danger. It would be well if as much could be said for the Cantonment and the City. I hope next year to be able to report that these suggestions have been adopted.

JOHN LUMSDAINE,
Sanitary Commissioner.

Bombay, April 19th, 1881.

APPENDICES.

GENERAL POPULATION AND VITAL STATISTICS.

ANNUAL FORM, No. I.—BIRTHS *registered in the* DISTRICTS *of the* BOMBAY PRESIDENCY *during the year* 1880.

1	2	3	4			5			6	7	8
No.	DISTRICTS.	Population according to Census of 1872.	Number of Births registered.			Ratio of Births per 1,000 of Population.			Number of Males born to every 100 Females born.	Excess of Births over Deaths per 1,000 of Population.	Excess of Deaths over Births per 1,000 of Population.
			Male.	Female.	Total	Male.	Female.	Total.			
	Northern Deccan Division.										
1	Khándesh	1,028,642	16,121	14,631	30,752	30·38	29·38	29·90	110·18	9·41	....
2	Násik	734,386	11,855	11,137	22,992	31·46	31·15	31·31	106·45	11·79	....
3	Ahmednagar	773,938	10,267	9,819	20,086	25·97	25·93	25·95	104·56	7·73	....
4	Poona	907,235	9,602	8,597	18,199	20·57	19·52	20·06	111 69	4·52	....
5	Sholápur	718,034	4,476	4,083	8,559	11·12	11·71	11·92	109·63	....	3·32
	Southern Deccan Division.										
6	Sátára	1,061,002	16,538	15,376	31,914	30·66	29·48	30·08	107·56	10·42	....
7	Belgaum	938,750	12,526	11,658	24,184	26·16	25·35	25·75	107·45	0·72	....
8	Dhárwár	988,037	14,719	13,737	28,456	29·09	28·50	28·80	107·15	7·28	....
9	Kaládgi	816,037	5,540	5,285	10,825	13·27	13·27	13·26	104·83	....	4·13
	Konkan Division.										
10	Kánara	398,406	6,692	6,181	12,873	32·42	32·19	32·31	108·27	2·52	....
11	Ratnágiri	1,019,136	6,590	5,893	12,483	13·41	11·17	12·25	111·83	....	4·66
12	Kolába	350,405	4,038	3,586	7,624	22·68	20·81	21·76	112·60	3·42	....
13	Bombay City	644,405	9,261	7,736	16,997	23·17	31·62	26·38	119·71	....	6·01
14	Thána	847,424	12,187	11,274	23,461	27 74	27·62	27·68	108·10	7·46	....
	Gujarát Division.										
15	Surat	607.087	8,227	7,670	15,897	27·04	25·32	26·19	107·26	0·79	....
16	Broach	350,322	3,104	2,757	5,861	17·00	16·42	16·73	112·59	....	12·74
17	Kaira	782,733	12,949	11,466	24,415	30·89	31·53	31·19	112 93	1·08	....
18	Panch Mahális	240,743	4,106	3,864	7,970	32·50	33·76	33·10	106·26	17·38	....
19	Ahmedabad	829,687	9,389	8,445	17,834	21·39	21·60	21·49	111·17	....	8·09
	Sind Division.										
20	Karáchi	423,495	4,517	3,390	7,907	18·81	18·49	18·67	133·24	3·67	....
21	Hyderabad	721,947	4,533	3,117	7,650	11·40	9·62	10·60	145·43	0·41	....
22	Thar and Párkar	180,761	2,649	2,040	4,689	25·65	26 33	25·94	129·85	13 15	....
23	Shikárpur	776,227	4,947	3,564	8,511	11·65	10·13	10·96	138·80	2·60	....
24	Upper Sind Frontier	89,985	452	282	734	8·96	7·14	8·16	160·28	1·21	....
	Total for the Presidency ..	16,228,774	195,285	175,588	370,873	23·02	22·67	22·85	111·22	2·60	....

ANNUAL FORM No. II.—DEATHS *registered in the* DISTRICTS *of the* BOMBAY PRESIDENCY *during the year* 1880.

1	2	3	4	5			6	7			8		
No.	DISTRICTS.	Area in square miles.	Average Population per square mile.	Number of Deaths registered.			Number of Males died to every 100 Deaths of Females	Ratio of Deaths per 1,000 of the Population.			Mean ratio of Deaths per 1,000 during previous five years.		
				Male.	Female.	Total.		Male.	Female.	Total.	Male.	Female.	Total.
	Northern Deccan Division.												
1	Khándesh	9,802	104·10	11,635	9,442	21,077	123·22	21·93	18·96	20·49	26·62	24·52	25·45
2	Násik	8,140	90·22	7,659	6,675	14,334	114·74	20·32	18·67	19·52	29·35	27·30	28·35
3	Ahmednagar	6,647	116·43	7,481	6,621	14,102	112·99	18·92	17·49	18·22	31·37	28·03	29·73
4	Poona	5,099	177·92	7,458	6,636	14,094	112·39	15·98	15·07	15·53	26·41	23·90	25·19
5	Sholápur	4,499	159·59	5,911	5,031	10,942	117·49	16·01	14·43	15·24	33·76	29·59	31·74
	Southern Deccan Division.												
6	Sátára	4,804	220·86	11,042	9,802	20,844	112·65	20·47	18·79	19·65	31·63	28·39	30·04
7	Belgaum	4,592	204·43	12,573	10,925	23,498	115·08	26·25	23·76	25·03	43·25	38·01	40·68
8	Dhárwár	4,568	216·44	11,233	10,031	21,264	111·98	22·20	20·31	21·52	43·50	39·31	41·56
9	Kaládgi	5,696	143·26	7,604	6,591	14,195	115·36	18·21	16·54	17·39	41·08	35·49	38 28
	Konkan Division.												
10	Kánara	4,235	94·07	6,144	5,727	11,871	107·28	29·76	29·83	29·79	38·64	35·91	37·30
11	Ratnágiri	8,789	290·09	9,211	8,021	17,232	114·83	18·76	15·19	16·91	19·96	17·58	18·73
12	Kolába	1,482	236·44	3,421	3,006	6,427	113·81	19·21	17·44	18·34	17·69	15·86	16·79
13	Bombay City	22	29,291·13	10,973	9,900	20,873	110 84	27·45	40·46	32·39	31·93	46·13	37·32
14	Thána	4,052	209·14	9,186	7,945	17,131	115·62	20·92	19·46	20·22	24·23	22·38	23·37
	Gujarát Division.												
15	Surat	1,588	382·30	8,000	7,425	15,425	107·74	26·29	24·51	25·40	27·81	25·64	26·79
16	Broach	1,358	257·97	5,619	4,707	10,326	119·38	30·78	28·05	29·47	31·04	29·80	30·46
17	Kaira	1,561	501·43	12,802	10,768	23,570	118 89	30·54	29·61	30·11	30·85	27·23	29·06
18	Panch Mahális	1,731	159·08	1,991	1,805	3,796	110·30	15·76	15·77	15·77	31·40	25·99	28·83
19	Ahmedabad	3,844	215·80	13,422	11,117	24,539	120·73	30·59	28·44	29·58	30·77	29·56	30·20
	Sind Division.												
20	Karáchi	14,091	30·05	3,659	2,494	6,353	146·71	15·24	13·60	15·00	16·13	14·21	15·30
21	Hyderabad	9,053	79·75	4,326	3,028	7,354	142·86	10·88	9·34	10·19	12·47	10·41	11·54
22	Thar and Párkar	12,729	14·20	1,281	1,030	2,311	124·37	12·40	13·29	12·79	12·29	12·41	12·34
23	Shikárpur	8,813	88·08	3,778	2,712	6,490	139·31	8·90	7·71	8·36	10·49	8·88	9·76
24	Upper Sind Frontier	1,913	48·37	408	217	625	188·01	8·08	5·49	6·95	9·11	8·27	8·74
	Total for the Presidency ..	124,105	130·77	176,817	151,856	328,673	116·44	20·85	19·60	20·25	29·14	26·98	28·11

ANNUAL FORM No. III.—DEATHS *registered in the* DISTRICTS *of the* BOMBAY PRESIDENCY *during each month of the year* 1880.

1	2	3												4	5
No.	DISTRICTS.	January.	February	March.	April.	May.	June.	July	August	September.	October.	November.	December.	Total Deaths registered during the year.	No.
	Northern Deccan Division.														
1	Khándesh	1,476	1,440	1,930	1,659	1,663	1,491	1,724	2,113	1,888	1,692	2,139	1,857	21,077	1
2	Násik	1,080	1,088	1,077	999	835	1,053	1,339	1,305	1,087	1,240	1,796	1,435	14,334	2
3	Ahmednagar	1,322	989	1,082	1,034	976	1,166	1,381	1,390	1,254	1,117	1,229	1,162	14,102	3
4	Poona	1,564	973	1,095	1,094	1,007	956	1,194	1,286	1,159	1,017	1,285	1,464	14,094	4
5	Sholápur	1,184	868	831	767	864	749	986	1,052	911	772	845	1,113	10,942	5
	Southern Deccan Division.														
6	Sátára	1,873	1,649	1,746	1,556	1,563	1,624	2,073	2,086	1,833	1,612	1,637	1,642	20,844	6
7	Belgaum	2,271	2,159	2,555	2,067	2,124	2,102	2,183	2,049	1,747	1,453	1,362	1,436	23,498	7
8	Dhárwár	2,088	1,699	1,959	1,517	1,732	1,538	1,986	2,096	1,853	1,492	1,520	1,784	21,264	8
9	Kaládgi	1,392	1,037	1,173	1,054	1,267	1,302	1,388	1,335	1,112	918	938	1,279	14,195	9
	Konkan Division.														
10	Kánara	1,347	1,163	1,128	886	806	802	1,017	951	899	923	914	1,035	11,871	10
11	Ratnágirl	1,773	1,577	1,622	1,409	1,284	1,212	1,783	1,557	1,333	1,197	1,194	1,291	17,232	11
12	Kolába	614	553	588	510	414	447	466	545	579	504	531	676	6,427	12
13	Bombay City	1,909	1,924	2,260	1,992	1,820	1,503	1,468	1,570	1,623	1,691	1,478	1,635	20,873	13
14	Thána	2,125	1,956	1,726	1,544	1,195	994	1,207	1,270	1,098	1,106	1,451	1,459	17,131	14
	Gujarát Division.														
15	Surat	1,447	1,351	1,570	1,181	1,116	886	1,096	1,232	1,170	1,206	1,612	1,558	15,425	15
16	Broach	1,225	940	897	622	635	523	533	705	797	1,013	1,260	1,176	10,326	16
17	Kaira	1,957	2,092	2,301	1,920	1,786	1,448	1,476	1,944	2,006	2,204	2,423	2,013	23,570	17
18	Panch Mahális	297	288	304	325	320	242	232	272	273	285	508	455	3,796	18
19	Ahmedabad	2,957	2,703	2,743	2,108	1,775	1,206	1,174	1,493	1,668	1,894	2,389	2,369	24,539	19
	Sind Division														
20	Karáchi	541	626	521	437	465	395	367	404	380	515	782	920	6,353	20
21	Hyderabad	811	1,072	834	588	500	369	439	434	425	487	599	796	7,354	21
22	Thar and Párkar ..	243	288	330	274	162	146	117	102	94	145	155	255	2,311	22
23	Shikárpur	698	720	607	584	571	504	454	342	392	458	524	636	6,490	23
24	Upper Sind Frontier ..	95	86	78	64	64	32	34	27	32	26	42	45	625	24
	Total for the Presidency ..	32,289	29,301	30,957	26,191	24,944	22,690	26,117	27,515	25,613	24,967	28,608	29,481	328,673	
	Ratio of deaths per 1,000 in each month.	1·98	1·80	1·91	1·61	1·54	1·40	1·60	1·69	1·58	1·54	1·76	1·82	20·25	

ANNUAL FORM No. IV.—DEATHS *registered according to Age in the* DISTRICTS *of the* BOMBAY PRESIDENCY *during the year* 1880.

1	2	3		4		5		6		7		8		9		10		11		12
No.	DISTRICTS.	Under 1 year.		1 year and Under 6.		6 and under 12		12 and under 20.		20 and under 30.		30 and under 40.		40 and under 50.		50 and under 60.		60 and upwards.		No.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
	Northern Deccan Division.																			
1	Khándesh	2,710	2,155	2,897	2,486	532	455	415	429	762	756	1,008	716	1,066	667	1,090	748	1,155	1,030	1
2	Násik	1,642	1,285	1,426	1,278	535	551	485	477	668	777	739	583	660	426	659	535	845	768	2
3	Ahmednagar	1,571	1,296	1,065	994	340	300	315	304	613	654	670	614	792	548	980	779	1,135	1,132	3
4	Poona	1,075	787	1,012	872	470	358	508	560	883	964	804	734	835	666	909	756	962	939	4
5	Sholápur	723	513	909	728	406	326	308	343	659	610	699	563	756	602	807	684	645	662	5
	Southern Deccan Division.																			
6	Sátára	2,157	1,715	1,916	1,779	610	465	432	404	875	847	946	866	1,168	856	1,290	1,148	1,648	1,722	6
7	Belgaum	1,634	1,365	1,667	1,711	952	761	740	543	1,414	1,234	1,610	1,252	1,587	1,091	1,425	1,229	1,544	1,739	7
8	Dhárwár	2,427	1,903	1,317	1,309	810	662	767	709	1,257	1,430	1,322	1,137	1,227	1,000	1,144	897	962	984	8
9	Kaládgi	694	544	733	647	596	508	584	422	1,130	992	1,087	993	1,085	812	934	830	761	849	9
	Konkan Division.																			
10	Kánara	1,244	1,094	493	556	237	265	366	448	932	1,101	880	640	786	511	603	504	603	608	10
11	Ratnágiri	504	450	890	825	503	422	563	586	1,154	1,048	1,061	905	1,230	834	1,364	1,054	1,942	1,897	11
12	Kolába	494	414	624	604	201	167	164	176	315	303	386	311	457	247	409	321	371	457	12
13	Bombay City	3,329	2,775	1,778	1,881	325	430	567	844	1,408	1,333	1,167	748	848	472	787	583	764	834	13
14	Thána	1,523	1,233	1,530	1,485	500	469	446	439	1,057	1,081	1,216	891	1,111	729	998	779	810	848	14
	Gujarát Division.																			
15	Surat	1,308	1,260	1,779	1,706	454	382	307	329	647	656	796	633	797	569	905	716	1,007	1,172	15
16	Broach	773	649	1,135	1,066	270	215	245	191	551	454	708	529	776	521	658	525	503	557	16
17	Kaira	2,240	2,173	2,600	2,171	575	491	514	352	1,076	842	1,299	929	1,540	1,020	1,511	1,108	1,447	1,682	17
18	Panch Mahális	464	434	384	390	117	108	89	82	151	180	185	145	240	113	209	180	152	173	18
19	Ahmedabad	1,578	1,346	2,175	1,840	1,011	814	1,115	887	1,633	1,261	1,588	1,291	1,742	1,377	1,488	1,225	1,092	1,076	19
	Sind Division.																			
20	Karáchi	659	581	332	327	178	123	165	144	442	364	515	341	457	260	396	183	515	371	20
21	Hyderabad	476	463	272	198	191	136	251	195	527	437	746	478	709	387	561	310	593	424	21
22	Thar and Párkar ..	214	202	121	94	70	62	89	72	125	126	181	127	166	86	153	122	162	139	22
23	Shikárpur	526	426	289	266	221	185	268	198	491	406	659	409	526	243	375	235	423	349	23
24	Upper Sind Frontier ..	34	31	32	21	31	18	31	19	71	33	72	37	61	18	38	26	38	19	24
	Total for the Presidency ..	29,999	25,094	27,376	25,236	10,135	8,662	9,734	9,148	18,841	17,889	20,344	15,872	20,621	14,046	19,688	15,483	20,079	20,426	
	Ratio per 1,000 living ..	102·25	86·74	18·59	17·92	7·51	8·06	8·05	7·95	11·74	11·55	17·11	15·60	27·97	22·37	48·04	40·53	92·40	86·68	

ANNUAL FORM No. V.—DEATHS *registered according to* CLASSES *in the* DISTRICTS *of the* BOMBAY PRESIDENCY *during the year* 1880.

1	2	3					4					5				
		POPULATION ACCORDING TO CENSUS OF 1872.					NUMBER OF DEATHS REGISTERED.					RATIO OF DEATHS PER 1,000 OF POPULATION.				
No.	DISTRICTS.	Mahomedans.	Hindus.	Christians.	Other Classes.	Total.	Mahomedans.	Hindus.	Christians.	Other Classes.	Total.	Mahomedans.	Hindus.	Christians.	Other Classes.	Total.
	Northern Deccan Division.															
1	Khándesh	79,350	948,279	517	487	1,028,642	1,437	19,583	6	51	21,077	18·11	20·65	11·61	104·72	20·46
2	Násik	32,148	693,335	1,064	7,839	734,386	709	13,419	12	194	14,334	22·05	19·35	11·28	24·75	19·52
3	Ahmednagar	42,435	729,367	941	1,195	773,938	767	13,209	34	92	14,102	18·07	18·11	36·13	76·99	18·22
4	Poona	39,583	862,165	3,862	1,625	907,235	643	13,329	9	113	14,094	16·24	15·46	2·33	69·64	15·53
5	Sholápur..	50,655	666,985	319	75	718,034	940	9,913	..	89	10,942	18·56	14·86	..	..	15·24
	Southern Deccan Division.															
6	Sátára	34,957	1,025,349	600	96	1,061,002	788	19,990	6	60	20,844	22·54	19·50	60·00	625·00	19·65
7	Belgaum	71,386	862,215	5,067	82	938,750	1,527	21,771	134	66	23,498	21·39	25·25	26·24	804·88	25·03
8	Dhárwár	114,087	872,390	1,522	38	988,037	2,124	18,921	53	166	21,264	18·62	21·69	34·82	..	21·52
9	Kaládgi	87,399	728,585	52	1	816,037	1,180	12,842	6	167	14,195	13·50	17·62	115·38	..	17·39
	Konkan Division.															
10	Kánara	21,755	364,290	12,189	172	398,406	564	10,894	357	56	11,871	25·92	29·90	29·29	325·58	29·79
11	Ratnágiri	74,834	940,885	3,244	173	1,019,136	962	16,098	33	139	17,232	12·85	17·11	10·17	803·47	16·91
12	Kolába	17,194	330,914	208	2,089	350,405	287	6,085	26	29	6,427	16·69	18·39	125·00	13·88	18·34
13	Bombay City	137,644	423,801	34,724	48,286	644,405	5,149	13,911	740	1,073	20,873	37·33	32·82	21·31	22·24	32·39
14	Thána	38,835	765,886	37,029	5,674	647,424	777	15,559	720	75	17,131	20·01	20·31	19·44	13·21	20·22
	Gujarát Division.															
15	Surat	52,157	541,738	334	12,858	607,087	1,266	13,854	3	302	15,425	24·27	25·57	8·98	23·48	25·40
16	Broach	69,033	277,032	86	4,171	350,322	1,985	8,262	..	79	10,326	28·75	29 82	..	18·94	29·47
17	Kaira	70,741	711,619	305	68	782,783	1,883	21,639	45	3	23,570	26 61	30·40	147·54	44·11	30·11
18	Panch Mahás	14,921	225,775	30	17	240,743	331	3,462	..	3	3,796	22·18	15·33	....	176·47	15·77
19	Ahmedabad	81,373	747,027	650	587	829,637	2,695	21,805	11	28	24,539	33·11	29·18	16·92	47·70	29·58
	Sind Division.															
20	Karáchi	347,551	72,517	2,643	784	423,495	4,913	1,362	28	44	6,353	14·14	18·87	10·59	56·12	15·00
21	Hyderabad	558,272	102,613	391	60,671	721,947	5,228	2,063	..	63	7,354	9·36	20·10	..	1·04	10·19
22	Thar and Párkar	96,604	62,500	35	21,622	180,761	1,284	703	..	324	2,311	13·29	11·25	..	14·98	12·79
23	Shikárpur	628,662	146,482	238	845	776,227	4,774	1,698	8	10	6,490	7·59	11·59	33·61	11·83	8·36
24	Upper Sind Frontier	81,177	8,715	22	71	89,985	434	178	..	13	625	5·35	20·42	..	183·10	6·95
	Total of the Presidency ..	2,842,762	13,110,464	106,072	169,476	16,228,774	42,647	280,556	2,231	3,239	328,673	15·00	21·40	21·00	19·11	20·25

N.B.—"Hindus" include Jains as well as all castes professing Hinduism. "Other classes" include Parsis, Chinese and Jews.

ANNUAL FORM No. VI.—DEATHS *registered from* DIFFERENT CAUSES *in the* DISTRICTS *and* TOWNS *of the* BOMBAY PRESIDENCY *during the year* 1880.

1	2	3	4	5	6	7	8					9	10	11							12
							INJURIES.							RATIO OF DEATHS PER 1,000 OF POPULATION.							
							Suicide.												From all Causes.		
No.	DISTRICTS AND TOWNS.	Population according to Census of 1872.	Cholera.	Small-pox.	Fevers.	Bowel-complaints.	Male.	Female.	Wounding or Accident	Snake-bite or killed by wild beasts.	Total.	All other causes.	Total Deaths from all causes.	Cholera.	Small-pox.	Fevers.	Bowel-complaints	Injuries.	All other causes.	For the year.	Mean of previous five years.	No.
	A.—DISTRICTS.																				
	Northern Deccan Division																				
1	Khándesh	985,303	..	..	16,499	3,016	18	15	167	37	237	484	20,236	..	..	16·75	3·06	0·24	0·49	20·54	25·59	1
2	Násik	689,355	55	1	10,773	1,099	7	6	100	42	155	1,004	13,087	0·08	..	15·63	1·59	0·23	1·46	18·98	27·88	2
3	Ahmednagar	727,136	11	..	10,010	1,135	5	15	125	24	169	1,458	12,783	0·02	..	13·77	1 56	0·23	2·01	17·58	30·19	3
4	Poona	778,051	92	..	9,363	780	3	11	198	26	238	930	11,403	0·12	..	12·03	1·00	0·31	1·20	14·66	24·81	4
5	Sholápur..	629,796	3	..	6,063	513	8	11	138	12	169	838	7,586	..	..	9·63	0·81	0·27	1·33	12·05	28·75	5
	Southern Deccan Division.																				
6	Sátára	1,014,046	14	2	16,505	1,081	19	19	261	54	353	1,869	19,824	0·01	..	16 28	1·07	0·35	1·84	19·55	30·26	6
7	Belgaum	882,278	..	2	14,858	2,412	30	49	190	37	306	4,575	22,153	..	..	16·84	2·73	0·35	5·19	25·11	42·32	7
8	Dhárwár	892,282	..	..	12,915	2,755	39	60	150	22	271	3,548	19,489	..	..	14·47	3·09	0·30	3·98	21·84	43·71	8
9	Kaládgi	809,445	4	1	10,992	1,008	53	58	167	20	298	1,748	14,051	0·01	..	13·58	1·24	0·37	2·16	17·36	38·09	9
	Konkan Division.																				
10	Kánara	374,211	..	1	6,973	815	12	13	139	27	191	3,450	11,430	..	..	18·63	2·18	0·51	9·22	30·54	39·29	10
11	Ratnágiri	993,526	..	28	11,422	1,300	17	16	218	178	429	3,677	16,856	..	0·03	11·50	1·31	0·43	3·70	16 97	18·85	11
12	Kolába	338,301	27	60	4,865	137	4	1	82	24	111	930	6,130	0·08	0·18	14·38	0·41	0·33	2·74	18·12	16·17	12
13	Thána	809,485	62	5	14,487	185	17	15	234	112	378	1,396	16,518	0·08	0·01	17·89	0·23	0·47	1·72	20·40	23·14	13
	Gujarát Division.																				
14	Surat	488,623	2	1	10,431	1,282	9	7	151	55	222	837	12,775	..	..	21·34	2·62	0·45	1·71	26·14	27·53	14
15	Broach	298,466	..	..	8,653	264	4	3	53	17	77	326	9,320	..	..	28·99	0·88	0·25	1·09	31·22	31·64	15
16	Kaira	719,305	..	..	19,161	1,742	13	16	217	89	335	906	22,144	..	..	26·63	2·42	0·46	1·25	30·78	29·19	16
17	Panch Mahás	218,630	3	..	3,070	118	2	4	41	46	93	71	3,355	0·01	..	14·04	0·54	0·42	0·32	15·35	28·01	17
18	Ahmedabad	660,795	1	..	15,729	874	14	8	108	53	183	1,080	17,867	..	..	23·33	1·32	0·27	1·63	27·03	28·54	18
	Sind Division.																				
19	Karáchi	369,969	..	82	3,940	96	3	..	145	111	259	727	5,104	..	0·22	10·65	0·26	0·70	1·97	13·80	14·39	19
20	Hyderabad	686,675	..	66	5,520	97	2	5	230	201	439	325	6,447	..	0·09	8·40	0·14	0·64	0·47	9·39	9·90	20
1	Thár and Párkar	176,762	..	7	1,985	19	3	1	24	47	75	153	2,239	..	0 04	11·23	0·10	0·42	0·87	12·67	11·64	21
22	Shikárpur	714,159	..	393	4,712	112	6	7	180	46	239	127	5,583	..	0·55	6·60	0·16	0·33	0·18	7·82	8·74	22
23	Upper Sind Frontier	84,780	..	61	330	14	..	..	6	2	8	33	446	..	0·72	3·92	0·17	0·09	0·39	5·30	6·85	23
	Total of Districts..	14,341,379	274	710	219,256	20,854	289	340	3,324	1,282	5,235	30,492	276,821	0·02	0·05	15·29	1·45	0·36	2·18	19·30	27·32	

ANNUAL FORM No. VI.—DEATHS *registered from* DIFFERENT CAUSES *in the* DISTRICTS *and* TOWNS *of the* BOMBAY PRESIDENCY *during the year* 1880—continued.

1	2	3	4	5	6	7	8					9	10	11							12
							Injuries.							Ratio of Deaths per 1,000 of Population.							
							Suicide.												From all Causes.		
No.	Districts and Towns.	Population according to Census of 1872.	Cholera.	Small-pox.	Fevers.	Bowel-complaints.	Male.	Female.	Wounding or Accident.	Snake-bite or killed by wild beasts.	Total.	All other Causes.	Total Deaths from all Causes	Cholera.	Small-pox.	Fevers.	Bowel-complaints.	Injuries.	All other Causes.	For the year.	Mean of previous five years.	No.
	B.—TOWNS.																				
	Khándesh District.																				
1	Dhulia	12,489	..	..	136	40	..	1	3	..	4	100	280	..	..	10·89	3·20	0·32	8·01	22·42	21·93	1
2	Nandurbár	7,205	..	..	58	14	..	..	3	1	4	..	76	..	..	8·05	1·94	0·56	..	10·55	21·78	2
3	Chopda	13,699	..	..	167	1	..	1	2	..	3	..	171	..	..	12·19	0·07	0·22	..	12·48	16·91	3
4	Nasirabad	9,941	..	..	299	4	1	1	5	2	9	2	314	..	..	30·08	0·40	0·91	0·20	31·59	36·10	4
	Násik District.																				
5	Násik	22,436	..	..	458	75	1	..	6	1	8	240	781	..	..	20·41	3·34	0·36	10·70	34·81	54·09	5
6	Yeola	17,461	..	..	169	14	..	2	2	..	4	136	323	..	..	9·68	0·80	0·23	7·79	18·50	38·89	6
7	Devláli Cantonment	894	..	..	12	2	..	..	..	..	..	5	19	..	..	13·42	2·25	..	5·59	21·25	30·13	7
8	Málegaon Cantonment	4,240	..	..	69	11	..	1	1	..	2	42	124	..	..	16·27	2·59	0·47	9·91	29·25	46·03	8
	Ahmednagar District.																				
9	Ahmednagar	32,841	..	..	396	81	5	2	8	2	17	566	1,060	..	..	12·06	2·47	0·52	17·23	32·28	46·66	9
10	Sangamner	9,978	..	..	112	11	..	..	1	..	1	46	170	..	..	11·22	1·10	0·10	4·61	17·04	33·45	10
11	Ahmednagar Cantonment	3,983	..	..	24	9	..	..	2	..	2	54	89	..	..	6·03	2·26	0·50	13·56	22·34	23·07	11
	Poona District.																				
12	Poona City	90,436	349	..	810	160	1	5	40	1	47	735	2,101	3·86	..	8·96	1·77	0·52	8·13	23·23	27·80	12
13	Junnar	10,298	..	..	64	..	..	..	..	..	..	..	64	..	..	6·21	..	..	..	6·21	14·68	13
14	Poona and Kirkee Cantonments	28,450	20	..	285	36	1	2	9	..	12	173	526	0·70	..	10·02	1·27	0·42	6·08	18·49	23·08	14
	Sholápur District.																				
15	Sholápur	53,403	..	..	1,246	98	3	2	28	..	33	755	2,132	..	..	23·33	1·84	0·62	14·14	39·92	68·94	15
16	Bársi	18,560	..	..	200	23	..	1	6	..	7	328	558	..	..	10·78	1·24	0·38	17·67	30·06	48·41	16
17	Pandharpur	16,275	..	..	324	219	..	..	2	1	3	120	666	..	..	19·91	13·46	0·18	7·37	40·92	73·75	17
	Sátára District.																				
18	Sátára	24,484	..	..	300	94	3	4	4	..	11	169	574	..	..	12·25	3·84	0·45	6·90	23·44	34·99	18
19	Karád	11,410	..	..	160	10	..	..	2	..	2	105	277	..	..	14·02	0·88	0·18	9·20	24·28	25·40	19
20	Wái	11,062	..	..	118	12	..	1	2	1	4	35	169	..	..	10·67	1·08	0·37	3·16	15·48	34·51	20
	Belgaum District.																				
21	Belgaum	26,947	..	8	457	66	3	3	11	..	17	179	722	..	0·11	16·96	2·45	0·63	6·64	26·79	46·08	21
22	Gokák	12,612	..	..	204	4	2	2	4	..	8	14	230	..	..	16·18	0·32	0·63	1·11	18·24	49·11	22
23	Athni	11,588	..	..	76	44	..	..	2	..	2	127	249	..	..	6·55	3·80	0·17	10·96	21·49	62·66	23
24	Belgaum Cantonment	5,330	..	..	71	19	..	..	6	..	6	48	144	..	..	13·32	3·56	1·13	9·00	27·01	51·18	24
	Dhárwár District.																				
25	Dhárwár	27,136	..	..	343	39	5	5	9	1	20	153	555	..	..	12·64	1·44	0·73	5·64	20·45	33·83	25
26	Hubli	37,961	..	1	493	220	5	4	9	..	18	100	832	..	0·03	12·99	5·80	0·47	2·63	21·92	35·02	26
27	Gadag-Betgeri	19,035	..	..	100	2	2	3	4	1	10	113	225	..	..	5·25	0·10	0·53	5·94	11·82	37·03	27
28	Ránebennur	11,623	..	1	66	22	1	1	4	..	6	68	163	..	0·08	5·68	1·89	0·52	5·85	14·02	32·30	28
	Kaládgi District.																				
29	Kaládgi	6,592	..	..	61	17	..	..	8	..	8	57	143	..	..	9·25	2·58	1·21	8·65	21·69	27·11	29
30	Kaládgi Cantonment	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	30
	Kánara District.																				
31	Kárwár	13,263	..	..	140	24	..	..	3	1	4	107	275	..	..	10·55	1·81	0·30	8·07	20·73	22·16	31
32	Kumta	10,932	.	..	68	15	1	..	4	..	5	78	166	..	..	6·22	1·37	0·46	7·13	15·18	18·32	32
	Ratnágiri District.																				
33	Vengurla	14,996	..	..	83	10	..	..	3	..	3	95	191	..	..	5·53	0 67	0 20	6·34	12·74	17·83	33
34	Ratnágiri	10,614	..	1	98	25	1	..	3	3	7	54	185	..	0·09	9·23	2 36	0·66	5·09	17·43	21·04	34
	Kolába District.																				
35	Alíbág	5,473	..	7	71	3	..	..	3	..	3	35	119	..	1·28	12·97	0·55	0·55	6·39	21·74	35·52	35
36	Mahád	6,631	..	..	128	1	..	..	1	..	1	48	178	..	..	19·30	0·15	0·15	7·24	26·84	23·08	36
	Thána District.																				
37	Thána	14,299	8	..	200	1	2	1	6	..	9	27	245	0·56	..	13·98	0·07	0·63	1·89	17·13	27·46	37
38	Kalyán	12,804	..	..	177	1	..	..	5	..	5	33	216	..	..	13·82	0·08	0·39	2·58	16·87	27·25	38
39	Panvel	10,836	..	..	133	1	1	1	4	..	6	17	157	..	..	12·27	0·09	0·55	1·57	14·43	28·05	39
40	Bombay City	644,405	30	266	7,391	1,683	38	32	250	10	330	11,233	20,873	0·05	0·32	11·47	2·61	0·51	17·43	32·39	37·32	40
	Surat District.																				
41	Surat	107,149	2	2	1,855	28	4	3	30	..	37	563	2,487	0 02	0·02	17·31	0·26	0·34	5·25	23·21	24·03	41
42	Bulsár	11,315	..	..	97	56	2	..	4	..	6	4	163	..	..	8·57	4·94	0·53	0·35	14·40	17·86	42
	Broach District.																				
43	Broach	36,932	..	..	518	4	4	4	10	2	20	110	652	..	..	14·02	0·10	0·54	2·97	17·65	26·35	43
44	Jambusar	14,924	..	..	299	52	..	..	1	2	3	..	354	..	..	20·03	3·48	0·20	..	23·72	16·78	44
	Kaira District.																				
45	Kaira	12,681	..	..	277	34	1	..	5	..	6	12	329	..	..	21·84	2·68	0·47	0·94	25·94	18·54	45
46	Nadiád	24,551	..	..	585	6	..	2	8	..	10	2	603	..	..	23·82	0·24	0·40	0·03	24·56	30·72	46
47	Borsád	12,214	..	..	225	6	..	..	7	1	8	1	240	..	.	18·42	0·49	0·65	0·08	19·64	24·02	47
48	Kapadvanj	13,982	..	..	227	22	1	1	2	..	4	1	254	..	..	16·23	1·57	0·28	0·07	18·16	27·56	48

ANNUAL FORM No. VI.—DEATHS *registered from* DIFFERENT CAUSES *in the* DISTRICTS *and* TOWNS *of the* BOMBAY PRESIDENCY *during the year* 1880—continued.

1	2	3	4	5	6	7	8					9	10	11							12
							Injuries.							Ratio of Deaths per 1,000 of Population.							
							Suicide.												From all Causes.		
No.	Districts and Towns.	Population according to Census of 1872.	Cholera.	Small-pox.	Fevers.	Bowel-complaints.	Male.	Female.	Wounding or Accident.	Snake-bite or killed by wild beasts.	Total.	All other Causes.	Total Deaths from all Causes.	Cholera.	Small-pox.	Fevers.	Bowel-complaints.	Injuries.	All other Causes.	For the year.	Mean of previous five years	No.
	B.—TOWNS—*continued.*																				
	Panch Mahâls District.																				
49	Godhra	10,641	1	..	221	4	1	..	2	5	8	8	242	0·09	..	20·76	0·37	0·75	0·75	22·74	38·71	49
50	Dohad	11,472	..	..	196	1	..	..	1	..	1	1	199	..	..	17·08	0·08	0·08	0·08	17·34	35·21	50
	Ahmedabad District.																				
51	Ahmedabad	116,873	..	..	3,740	61	..	..	20	..	20	1,609	5,430	..	..	32·00	0·52	0·17	13·76	46·46	59·77	51
52	Gogha	9,571	..	..	126	32	1	..	2	..	3	22	183	..	..	13·16	3·34	0·31	2·29	19·12	22·97	52
53	Viramgâm	19,661	..	..	510	1	1	1	3	..	5	66	582	..	..	25·94	0·05	0·25	3·35	29·60	26·86	53
54	Dholka	20,854	..	..	403	6	..	..	2	..	2	..	411	..	..	19·32	0·28	0·09	..	19·70	16·09	54
55	Ahmedabad Cantonment	1,883	..	..	38	6	..	..	1	..	1	21	66	..	..	20·18	3·18	0·53	11·15	35·05	55·85	55
	Karáchi District.																				
56	Karáchi	53,526	..	..	805	71	..	..	..	..	..	373	1,249	..	..	15·04	1·33	..	6·97	23·33	21·50	56
	Hyderabad District.																				
57	Hyderabad	35,272	..	..	750	2	..	2	12	1	15	140	907	..	..	21·26	0·06	0·43	3·97	25·71	43·50	57
	Thar and Párkar District.																				
58	Umarkot	3,999	..	..	64	..	..	..	1	1	2	6	72	..	..	16·00	..	0·50	1·50	18·00	24·90	58
	Shikárpur District.																				
59	Shikárpur	38,107	..	6	514	22	1	..	11	2	14	53	609	..	0·16	13·49	0·58	0·37	1·39	15·98	23·22	59
60	Sukkur	13,318	..	1	87	40	..	..	17	..	17	12	157	..	0·08	6·53	3·00	1·28	0·90	11·79	22·98	60
61	Lárkhána	10,643	..	..	118	2	2	1	9	..	12	9	141	..	..	11·09	0·19	1·13	0·85	13·25	13·54	61
	Upper Sind Frontier District.																				
62	Jacobabad	5,205	..	2	100	31	..	..	11	1	12	34	179	..	0·38	19·21	5·96	2·31	6·53	34·39	39·55	62
	Total of Towns	1,887,305	410	230	27,523	3,598	94	89	624	40	847	19,244	51,852	0·22	0·12	14·58	1·91	0·45	10·19	27·47	34·35	
	Total for the Presidency	16,228,774	684	940	246,779	24,452	383	429	3,948	1,322	6,082	49,736	328,673	0·04	0·06	15·21	1·51	0·37	3·06	20·25	28·11	

N.B.—Districts A in this statement do not include the population or deaths of Towns B. In all the other statements "Districts" include Towns.

ANNUAL FORM No. VII.—DEATHS *registered from* CHOLERA *in the* DISTRICTS *of the* BOMBAY PRESIDENCY *during each month of the year* 1880.

1	2	3		4		5												6			7			8	9
		Circles of Registration.		Villages.														Total.			Ratio of Deaths per 1,000 of Population				
No.	Districts.	Number in each District.	Number from which Deaths from Cholera were reported.	Number in each District.	Number from which Deaths from Cholera were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Male.	Female.	Total.	Male.	Female.	Total.	Mean ratio per 1,000 of previous five years.	No.
	Northern Deccan Division.																								
1	Khándesh	26	..	2,625	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2·75	1
2	Násik	16	2	1,629	3	..	44	..	..	..	..	..	4	7	..	..	..	29	26	55	0·08	0·07	0·08	1·72	2
3	Ahmednagar	14	2	1,342	3	..	..	..	..	..	..	..	..	2	..	..	..	5	6	11	0·01	0·02	0·01	2·90	3
4	Poona	11	6	1,184	18	388	20	6	12	..	..	..	..	..	..	1	34	232	229	461	0·50	0·52	0·51	2·80	4
5	Sholápur	10	1	716	1	..	..	..	..	..	..	..	..	..	..	..	3	..	3	3	..	0·01	..	2·81	5
	Southern Deccan Division.																								
6	Sátára	15	1	1,352	1	..	..	..	..	..	..	..	..	..	..	..	14	6	8	14	0·01	0·01	0·01	3·32	6
7	Belgaum	11	..	1,085	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4·60	7
8	Dhárwár	18	..	1,313	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3·98	8
9	Kaládgi	10	1	1,201	1	..	..	..	..	..	..	..	..	..	..	..	4	3	1	4	0·01	..	..	3 82	9
	Konkan Division.																								
10	Kánara	13	..	972	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1·92	10
11	Ratnágiri	10	..	1,249	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·94	11
12	Kolába	8	2	965	5	..	..	..	..	..	..	..	..	..	..	..	27	14	13	27	0·08	0·08	0·08	2·06	12
13	Bombay City	1	1	1	..	8	6	3	2	2	2	1	1	1	2	1	1	21	9	30	0·05	0·04	0·05	1·61	13
14	Thána	14	2	2,119	5	22	40	4	4	..	..	..	..	..	..	..	..	35	35	70	0·08	0·08	0·08	3·04	14
	Gujarát Division.																								
15	Surat	10	2	778	1	..	..	2	..	1	..	1	..	..	..	..	..	3	1	4	0·01	..	0·01	1·73	15
16	Broach	8	..	405	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1·66	16
17	Kaira	11	..	585	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1·35	17
18	Panch Mahâls	7	2	663	1	..	..	..	..	1	..	..	3	..	..	..	..	2	2	4	0·02	0·02	0·02	4·69	18
19	Ahmedabad	12	1	881	1	..	..	..	..	..	..	..	..	..	1	..	..	1	..	1	..	..	..	1·72	19
	Sind Division.																								
20	Karáchi	14	..	3,328	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·57	20
21	Hyderabad	14	..	5,967	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·40	21
22	Thar and Párkar	8	..	1,585	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·21	22
23	Shikárpur	20	..	4,633	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·35	23
24	Upper Sind Frontier	4	..	1,015	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·22	24
	Total of the Presidency	285	23	37,693	40	418	110	15	18	4	2	2	8	10	3	2	92	351	333	684	0·04	0·04	0·04	2·33	

ANNUAL FORM No. VIII.—DEATHS *registered from* SMALL-POX *in the* DISTRICTS *of the* BOMBAY PRESIDENCY *during each month of the year* 1880.

No.	2 Districts.	3 Circles of Registration. Number in each District.	3 Circles of Registration. Number from which Deaths from Small-pox were reported.	4 Villages. Number in each District.	4 Villages. Number from which Deaths from Small-pox were reported.	5 January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	6 Total. Male.	Female.	Total.	7 Number of these Deaths among Children. Under 1 year.	Under 12 years.	8 Total Ratio of Deaths per 1,000 of Population. Male.	Female.	Total.	9 Mean ratio per 1,000 of previous five years.	No.
	Northern Deccan Division.																										
1	Khándesh	26	..	2,625	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1·36	1
2	Násik	16	1	1,629	1	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	1·19	2
3	Ahmednagar	14	..	1,342	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·61	3
4	Poona	11	..	1,184	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·53	4
5	Sholápur	10	..	716	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·34	5
	Southern Deccan Division.																										
6	Sátára	15	1	1,352	2	..	1	1	..	..	..	..	..	..	..	..	..	1	1	2	2	..	..	..	..	0·23	6
7	Belgaum	11	2	1,085	2	1	1	..	3	..	..	..	..	..	..	..	..	1	4	5	..	2	..	0·01	0·01	0·57	7
8	Dhárwár	18	2	1,413	2	..	..	..	..	1	..	..	..	..	..	..	1	1	1	2	..	1	..	..	..	0·68	8
9	Kaládgi	10	1	1,201	1	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1	1	..	..	..	..	0·28	9
	Konkan Division.																										
10	Kánara	13	1	972	1	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	0·01	..	0·36	10
11	Ratnágiri	10	6	1,249	7	..	..	15	1	..	3	..	4	3	3	..	..	17	12	29	2	21	0·04	0·02	0·03	0·51	11
12	Kolába	8	5	965	16	..	..	9	5	5	8	7	10	10	6	3	4	30	37	67	10	11	0·17	0·21	0·19	0·52	12
13	Bombay City	1	1	1	..	10	34	51	37	36	21	9	4	4	..	..	..	105	101	206	70	112	0·27	0·41	0·32	1·56	13
14	Thána	14	4	2,119	4	..	..	1	2	1	..	1	..	..	..	..	..	5	..	5	1	4	0·01	..	0·01	0·55	14
	Gujarát Division.																										
15	Surat	10	2	778	2	..	..	..	..	..	..	1	2	..	..	..	..	..	3	3	..	3	..	..	..	0·36	15
16	Broach	8	..	405	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·70	16
17	Kaira	11	..	585	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·48	17
18	Panch Mahals	7	..	663	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·26	18
19	Ahmedabad	12	..	881	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·41	19
	Sind Division.																										
20	Karáchi	14	6	3,328	22	3	22	28	6	2	7	4	..	..	..	..	10	44	38	82	5	38	0·18	0·21	0·19	0·11	20
21	Hyderabad	14	7	5,967	42	10	8	10	8	14	11	..	5	..	..	..	..	35	31	66	4	29	0·09	0·09	0·09	0·17	21
22	Thar and Párkar ..	8	3	1,585	4	..	..	2	2	1	..	..	..	..	..	..	2	5	2	7	1	1	0·05	0·03	0·04	0·07	22
23	Shikárpur	20	19	4,638	201	51	64	59	74	50	37	21	9	2	2	12	19	216	184	400	73	145	0·51	0·52	0·51	0·16	23
24	Upper Sind Frontier ..	4	4	1,015	33	7	20	18	7	6	3	..	..	1	1	..	..	40	23	63	3	30	0·79	0·58	0·70	0·17	24
	Total for the Presidency.	285	65	37,698	340	82	150	194	146	117	91	43	34	20	12	15	36	500	440	940	172	398	0·06	0·06	0·06	0·59	

ANNUAL FORM No. IX.—DEATHS *registered from* FEVERS *in the* DISTRICTS *of the* BOMBAY PRESIDENCY *during each month of the year* 1880.

No.	2 Districts.	3 Circles of Registration. Number in each District.	3 Circles of Registration. Number from which Deaths from Fevers were reported.	4 Villages. Number in each District.	4 Villages. Number from which Deaths from Fevers were reported.	5 January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	6 Total. Male.	Female.	Total.	7 Ratio of Deaths per 1,000 of Population. Male.	Female.	Total.	8 Mean ratio per 1,000 for previous five years.	No.
	Northern Deccan Division.																								
1	Khándesh	26	26	2,625	2,583	1,207	1,195	1,550	1,334	1,366	1,191	1,401	1,734	1,462	1,347	1,824	1,548	9,355	7,804	17,159	17·63	15·67	16·68	16·69	1
2	Násik	16	16	1,629	1,629	892	840	889	829	652	814	1,064	998	830	983	1,493	1,206	6,105	5,376	11,481	16·20	15·04	15·63	19·92	2
3	Ahmednagar	14	14	1,342	1,342	994	728	844	796	743	876	997	1,058	886	796	951	873	5,555	4,987	10,542	14·05	13·17	13·62	20·17	3
4	Poona	11	11	1,184	1,184	914	745	883	853	810	736	944	964	872	710	1,008	1,133	5,588	4,934	10,522	11·97	11·20	11·60	16·48	4
5	Sholápur	10	10	716	628	793	641	656	576	599	546	731	719	626	574	611	861	4,246	3,587	7,833	11·50	10·28	10·91	18·16	5
	Southern Deccan Division.																								
6	Sátára	15	15	1,352	1,291	1,565	1,386	1,476	1,317	1,329	1,334	1,670	1,610	1,424	1,263	1,359	1,350	9,062	8,021	17,083	16·80	15·38	16·10	22·03	6
7	Belgaum	11	11	1,085	1,029	1,632	1,474	1 447	1,469	1,192	1,373	1,415	1,261	1,076	871	867	889	8,330	7,236	15,566	17·39	15·96	16·69	20·62	7
8	Dhárwár	18	18	1,413	1,135	1,479	1,211	1,414	1,029	1,177	994	1,205	1,285	1,114	923	959	1,127	7,310	6,607	13,917	14·45	13·71	14·09	23·80	8
9	Kaládgi	10	10	1,201	994	1,088	803	946	828	1,022	1,023	1,085	1,041	827	684	697	1,005	5,921	5,133	11,054	14·18	12·88	13·55	22·38	9
	Konkan Division.																								
10	Kánara	13	13	972	972	830	688	707	525	475	470	614	555	531	543	586	657	3,586	3,595	7,181	17·37	18·72	18·02	21·85	10
11	Ratnágiri	10	10	1,249	1,249	1,163	1,102	1,119	946	813	807	1,260	1,053	899	781	790	841	6,160	5,443	11,603	12·54	10·31	11·38	10·39	11
12	Kolába	8	8	965	965	505	461	477	422	302	339	353	399	411	407	444	545	2,667	2,397	5,064	14·98	13·91	14·45	10·09	12
13	Bombay City	1	1	1	..	722	722	881	785	670	574	516	562	498	558	520	383	4,081	3,310	7,391	10·21	13·53	11·47	13·01	13
14	Thána	14	14	2,119	2,119	1,917	1,707	1,556	1,358	1,013	855	1,014	1,063	959	932	1,310	1,313	7,959	7,038	14,997	18·12	17·24	17·70	16·46	14
	Gujarát Division.																								
15	Surat	10	10	778	708	1,197	1,128	1,299	941	876	709	843	924	885	970	1,314	1,297	6,341	6,042	12,383	20·84	19·95	20·39	18·16	15
16	Broach	8	8	405	397	1,156	889	831	566	570	476	471	637	711	926	1,157	1,080	5,159	4,311	9,470	28·26	25·69	27·08	23·97	16
17	Kaira	11	11	585	565	1,757	1,871	2,024	1,676	1,491	1,212	1,237	1,038	1,740	1,943	2,138	1,748	11,120	9,355	20,475	26·53	25·73	26·16	22·74	17
18	Panch Mahals	7	7	663	494	265	266	272	311	284	218	202	239	242	261	486	441	1,830	1,657	3,487	14·48	14 47	14 48	18·94	18
19	Ahmedabad	12	12	881	854	2,540	2,387	2,385	1,725	1,472	979	936	1,208	1,380	1,594	2,011	1,949	11,194	9,352	20,546	25·51	23·92	24·77	21·28	19
	Sind Division.																								
20	Karáchi	14	14	3,328	1,560	447	503	395	336	295	255	223	260	272	377	631	746	2,770	1,975	4,745	11·54	10 77	11·20	11·58	20
21	Hyderabad	14	14	5,967	2,033	744	980	758	521	418	270	303	287	332	407	535	715	3,676	2,594	6,270	9·24	8·00	8·68	9·24	21
22	Thar and Párkar ..	8	8	1 585	943	222	261	314	261	147	109	92	77	70	123	135	238	1,134	915	2,049	10·98	11·31	11·34	10·68	22
23	Shikárpur	20	20	4,638	1,385	590	599	504	473	4·5	392	317	266	326	414	480	585	3,141	2,290	5,431	7·40	6·51	7·00	8·19	23
24	Upper Sind Frontier ..	4	4	1,015	117	70	58	35	41	48	15	25	18	23	19	33	35	267	163	430	5·29	4 12	4·78	7·09	24
	Total for the Presidency	285	285	37,698	26,676	24,689	22,625	23,921	19,909	18,579	16,572	18,922	19,856	18,396	18,406	22,339	22,565	132,557	114,222	246,779	15·63	14·75	15·21	17·42	

ANNUAL FORM No. X.—DEATHS *registered from* BOWEL-COMPLAINTS *in the* DISTRICTS *of the* BOMBAY PRESIDENCY *during each month of the year* 1880.

1	2	3		4		5												6			7			8	9
No.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.														TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean Ratio per 1,000 for previous five years.	No.
		Number in each District.	Number from which Deaths from Bowel-complaints were reported.	Number in each District.	Number from which Deaths from Bowel-complaints were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Male.	Female.	Total.	Male.	Female.	Total.		
	Northern Deccan Division.																								
1	Khándesh	26	26	2,625	746	197	174	271	259	227	223	262	332	353	273	255	249	1,828	1,247	3,075	3·45	2·50	2·99	3·35	1
2	Násik	16	16	1,629	316	82	71	86	75	88	112	103	122	105	107	139	111	705	498	1,201	1·87	1·39	1·64	2·32	2
3	Ahmednagar	14	14	1,342	343	125	94	78	100	78	102	141	127	119	91	88	93	711	525	1,236	1·80	1·39	1·60	2·98	3
4	Poona	11	11	1,184	351	65	59	97	62	53	71	74	115	87	90	108	86	558	418	976	1·30	0·95	1·07	1·88	4
5	Sholápur	10	10	716	124	70	82	73	50	63	57	70	94	71	58	86	79	495	358	853	1·34	1·03	1·19	3·29	5
	Southern Deccan Division.																								
6	Sátára	15	15	1,352	299	104	88	76	81	71	95	123	159	142	105	79	74	630	567	1,197	1·17	1·09	1·13	3·48	6
7	Belgaum	11	11	1,085	474	188	196	228	204	191	285	249	258	211	188	187	210	1,437	1,108	2,545	3·00	2·41	2·71	3·38	7
8	Dhárwár	18	18	1,473	487	254	248	244	173	229	193	349	332	307	227	222	260	1,657	1,381	3,038	3·27	2·09	3·07	5·46	8
9	Kaládgi	10	9	1,201	223	113	96	57	62	79	75	96	95	107	73	80	92	523	502	1,025	1·25	1·26	1·25	2·30	9
	Konkan Division.																								
10	Kánara	13	13	972	376	92	72	84	70	66	56	92	85	71	59	59	48	488	366	854	2·36	1·91	2·16	3·67	10
11	Ratnágiri	10	10	1,249	904	133	86	117	115	88	105	130	139	110	89	119	104	782	553	1,335	1·59	1·05	1·31	1·75	11
12	Kolába	8	8	965	46	14	11	9	8	11	9	9	16	27	10	5	12	89	52	141	0·50	0·30	0·40	0·61	12
13	Bombay City	1	1	1	...	161	124	128	121	131	106	136	164	171	154	124	163	940	737	1,683	2·37	3·01	2·61	3·08	13
14	Thána	14	14	2,119	71	30	20	11	23	14	9	16	19	8	14	16	8	112	76	188	0·26	0·19	0·22	0·43	14
	Gujarát Division.																								
15	Surat	10	10	773	246	99	87	101	107	114	87	107	130	130	93	172	139	755	611	1,366	2·48	2·01	2·25	2·32	15
16	Broach	8	8	405	65	20	17	25	20	16	27	18	16	37	36	47	41	176	144	320	0·96	0·85	0·91	1·80	16
17	Kaira	11	11	585	320	140	148	163	132	106	118	128	173	161	153	169	169	977	833	1,810	2·33	2·29	2·31	2·64	17
18	Panch Mahális	7	7	663	62	20	10	11	6	15	4	7	13	11	12	9	5	64	59	123	0·50	0·51	0·51	2·08	18
19	Ahmedabad	12	12	881	159	136	125	98	70	55	44	58	70	88	61	68	122	567	413	980	1·29	1·05	1·18	1·74	19
	Sind Division.																								
20	Karáchi	14	9	3,328	26	7	8	9	17	13	8	12	13	17	16	24	23	83	84	167	0·35	0·46	0·40	0·17	20
21	Hyderábad	14	13	5,967	55	4	13	11	9	6	9	6	10	2	6	8	16	61	38	99	0·15	0·12	0·14	0·11	21
22	Thar and Párkar ..	8	7	1,585	9	1	1	1	..	..	7	1	3	..	2	...	3	12	7	19	0·12	0·09	0·11	0·23	22
23	Shikárpur	20	17	4,638	62	24	15	8	12	9	14	22	17	18	12	16	9	114	62	176	0·27	0·18	0·23	0·26	23
24	Upper Sind Frontier ..	4	4	1,015	11	6	4	3	4	5	2	3	5	3	4	5	1	33	12	45	0·65	0·36	0·50	0·21	24
	Total for the Presidency.	285	274	37,698	5,775	2,085	1,849	1,984	1,780	1,788	1,788	2,207	2,507	2,352	1,942	2,085	2,106	13,603	10,649	24,452	1·63	1·37	1·51	2·39	

A.—VACCINE DEPARTMENT.

Statement No. I, showing Particulars of Vaccination in the Bombay Presidency during the year 1880-81.

Number.	Circles and Districts.	Population of Districts according to Census of 1872.	Average Population per Square Mile.	Average Number of Vaccinators employed throughout the Season.	Total Number of Persons Vaccinated.			Average Number of Persons Vaccinated by each Vaccinator.	Primary Vaccinations.				Revaccinations.		Percentage of Successful Cases.		Persons successfully vaccinated per 1,000 of Population.	Average Annual Number of Persons successfully Vaccinated during previous five years.		Average Annual Number of Deaths from Small-pox during previous five years.	
									Total.	Successful.			Total.	Successful.	Primary.	Revaccination.		Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
										Under 1 year.	Over 1 and under 6 years.	Total of all Ages.									
1	2	3	4	5	6			7	8	9	10	11	12	13	14	15	16	17	18	19	20
	THE NORTHERN DECCAN REGISTRATION DISTRICT.				Males.	Females.	Total.														
	Kha'ndesh Collectorate—																				
1	Dhulia Town	12,489	1248·90	1	377	336	713	713	713	621	88	713	..	..	100·	..	57·09	745	59·65	10	0·80
2	Nandurbár Town	7,205	554·23	..	..	..	..	*Vide*	Statement No. III.				..	..	..	..	..	26	3·61	10	1·39
3	Chopda Town, Local Fund	13,699	595·65	1	231	235	466	466	466	352	114	466	..	..	100·	..	34·02	134	9·78	18	1·31
4	Nasirabad Town do.	9,941	584·76	1	P. 92 R. 2	67 ..	159 2	161	159	101	57	159	2	2	100·	100·	16·20	155	15·59	10	1·01
5	In the 22 Rural Circles, Local Fund	985,308	101·17	22	P. 16,471 R. 437	16,477 232	32,948 669	1,528	32,996	18,370	13,499	32,292	669	457	98·01	68·31	33·24	27,296	27·70	1,471	1·41
	Total	1,028,642	104·94	25	P. 17,171 R. 439	17,115 232	34,286 671	1,398	34,334	19,444	13,758	33,630	671	459	98·09	68·41	33·14	28,356	27·57	1,519	1·48
	Na'sik Collectorate—																				
6	Yeola Town	17,461	8730·50	..	..	..	..	*Vide*	Statement No. III.				..	..	..	..	..	74	4·24	37	2·12
7	Násik do.	22,436	11218·	1	P. 309 R. 28	352 9	661 37	846	661	432	211	646	37	34	97·73	91·89	30·31	772	34·41	45	2·01
8	Devlali Cantonment	894			P. 81 R. ..	65 2	146 2		146	112	32	146	2	2	100·	100·	165·55	59	66·00	..	..
9	Málegaon do. Local Fund	4,240	4240·	..	54	49	103	103	103	92	7	99	..	..	96·12	..	23·46	84	19·81	..	..
10	In the 12 Rural Circles, do.	689,355	84·74	12	P. 9,117 R. 431	8,939 123	18,056 554	1,551	18,063	12,483	4,852	17,628	554	384	97·63	69·31	26·13	16,569	24·04	797	1·16
	Total	734,386	90·22	13	P. 9,561 R. 459	9,405 134	18,966 593	1,505	18,973	13,119	5,102	18,519	593	420	97·64	70·83	25·79	17,558	23·91	879	1·19
	Ahmednagar Collectorate—																				
11	Sangamner Town, Local Fund	9,978	623·62	..	P. 215 R. 1	219 ..	434 1	435	434	326	105	431	1	1	100·	100·	43·66	..	..	22	2·20
12	Ahmednagar Town	32,841	4105·12	1	607	591	1,198	1,295	1,198	916	269	1,198	..	..	100·	..	36·48	1,327	40·41	37	1·13
13	Do. Cantonment	3,983	995·75		P. 43 R. 20	32 2	75 22		75	47	22	75	22	21	100·	95·45	24·10	65	16·36	..	..
14	In the 11 Rural Circles, Local Fund	727,136	109·86	12	P. 10,082 R. 441	10,071 89	20,153 530	1,724	20,156	14,558	5,405	20,048	530	338	99·48	63·77	28·04	18,857	25·93	417	0·57
	Total	773,938	116·43	13	P. 10,917 R. 462	10,913 91	21,860 553	1,724	21,863	15,847	5,801	21,755	553	360	99·52	65·10	28·57	20,249	26·16	476	0·61
	Poona Collectorate—																				
15	Junnar Town	10,298	332·66	..	..	..	..	*Vide*	Statement No. III.				..	..	..	..	..	21	2·04	15	1·46
16	Khed do.	6,416	....	1	379	396	775	775	775	450	324	774	..	..	99·87	..	120·07	674	104·56	..	..
17	Poona City	90,436	22609·	2	P. 1,311 R. 589	1,076 101	2,387 690	1,538	2,387	1,599	828	2,248	690	303	94·18	43·91	28·21	2,522	26·78	77	0·85
18	Poona and Kirkee Cantonments	28,450	7112·50	1	P. 579 R. 305	388 6	967 311	1,278	967	821	146	967	311	233	100·	74·92	42·18	963	33·84	17	0·69
19	In the 8 Rural Circles, Local Fund	771,605	152·58	10	P. 6,726 R. 43	6,377 4	13,103 47	1,315	13,105	7,042	5,767	12,924	47	38	98·63	80·85	16·80	13,832	17·93	361	0·47
	Total	907,235	177·92	14	P. 8,995 R. 937	8,237 111	17,232 1,048	1,306	17,234	9,712	7,065	16,913	1,048	574	98·15	54·77	19·28	18,012	19·85	470	0·52

Statement No. I. showing Particulars of Vaccination, &c.—*continued.*

Number.	Circles and Districts.	Population of Districts according to Census of 1872.	Average Population per Square Mile.	Average Number of Vaccinators employed throughout the Season.	Total Number of Persons Vaccinated.			Average Number of Persons Vaccinated by each Vaccinator.	Primary Vaccinations.				Revaccinations.		Percentage of Successful Cases.		Persons successfully Vaccinated per 1,000 of Population.	Average Annual Number of Persons successfully Vaccinated during previous five years.		Average Annual Number of Deaths from Small-pox during previous five years.	
									Total.	Successful.			Total.	Successful.	Primary.	Revaccination.		Number	Ratio per 1,000.	Number	Ratio per 1,000.
										Under 1 year.	Over 1 and under 6 years.	Total of all Ages.									
1	2	3	4	5	6			7	8	9	10	11	12	13	14	15	16	17	18	19	20
	THE NORTHERN DECCAN REGISTRATION DISTRICT—*continued.*				Males.	Females.	Total.														
	Sholá'pur Collectorate—																				
20	Sholápur Town	53,403	2225·12	1	P. 769	493	1,262	1,652	1,262	680	323	1,247	390	381	98·81	97·69	30·49	1,927	36·08	43	0·81
					R. 389	1	390														
21	Bársi do.	18,560	640·	1	P. 572	576	1,148	1,153	1,148	754	369	1,123	5	5	97·83	100·	60·78	1,123	60·51	12	0·65
					R. 4	1	5														
22	Pandharpur Town	16,275	3255·	1	P. 789	836	1,625	1,669	1,625	1,177	422	1,611	44	40	99·14	90·90	101·44	1,495	91·85	8	0·49
					R. 40	4	44														
23	In the 7 Rural Circles, Local Fund	629,796	141·81	8	P. 4,412	4,303	8,715	1,182	8,729	5,026	3,361	8,579	738	657	98·44	89·02	14·67	12,203	19·37	185	0·29
					R. 485	253	738														
	Total	718,034	159·60	11	P. 6,542	6,208	12,750	1,266	12,764	7,637	4,475	12,560	1,177	1,083	98·51	92·01	19·00	16,748	19·38	248	0·39
					R. 918	259	1,177														
	Native States—																				
24	Dang Territory	39,111	10·19	..	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25	Akalkot	81,068	162·79	1	P. 709	665	1,374	1,476	1,380	545	583	1,208	102	83	94·47	81·37	17·04	1,653	20·39	..	..
					R. 68	34	102														
26	Modnimb	13,773	154·75	..	P. 135	134	269	273	269	172	86	262	4	3	97·39	75·00	19·24	226	16·41	..	..
					R. 2	2	4														
	TOTALS BY ESTABLISHMENTS IN NORTHERN DECCAN REGISTRATION DISTRICT.																				
	Cantonment	28,450	7112·50	1	P. 579	388	967	1,278	967	821	146	967	311	233	100·	74·92	42·18	963	33·85	17	0·60
					R. 305	6	311														
	Municipal	269,998	3139·51	9	P. 5,237	4,753	9,990	1,242	9,990	6,588	2,888	9,781	1,190	786	97·91	66·05	39·14	10,671	39·52	232	0·86
					R. 1,070	120	1,190														
	Local Fund	3,863,787	113·32	66	P. 47,409	46,737	94,137	1,465	94,211	58,350	33,167	92,629	2,541	1,877	98·40	73·87	24·20	88,217	22·83	3,344	0·87
					R. 1,840	701	2,541														
	Native State	133,952	30·26	1	P. 844	799	1,643	1,749	1,649	717	669	1,560	106	86	94·95	81·13	12·29	2,952	22·04	..	..
					R. 70	36	106														
	Grand Total	4,296,187	111·26	77	P. 54,060	52,677	106,737	1,440	106,817	66,476	36,870	104,937	4,148	2,982	98·31	71·89	25·12	102,803	23·93	3,593	0·84
					R. 3,285	863	4,148														
	THE SOUTHERN DECCAN REGISTRATION DISTRICT.																				
	Sa'ta'ra Collectorate—																				
27	Sátára Town	24,484	8161·33	1	P. 369	380	749	1,022	749	531	209	749	273	269	100	98·53	41·58	1,162	47·46	8	0·33
					R. 273	..	273														
28	Karád do.	11,410	7606·66	..	....	..	..	*Vide*	Statement No. III.			..	..	..	..	..	..	..	..	3	0·26
29	Wái do.	11,062	5531·	..	....	..	..		Do.			..	..	..	..	..	..	..	..	10	0·90
30	In the 12 Rural Circles, Local Fund	1,014,046	211·32	13	P. 13,318	12,390	25,708	2,015	25,762	16,527	8,332	25,256	490	398	98·24	81·22	25·30	27,325	26·95	223	0·22
					R. 471	19	490														
	Total	1,061,002	220·86	14	P. 13,687	12,770	26,457	1,944	26,511	17,058	8,541	26,005	763	667	98·29	87·42	25·14	28,487	26·85	244	0·23
					R. 744	19	763														

	Belgaum Collectorate—																												
31	Gokák Town	12,612	..	..	....	..	..	*Vide*	Statement No. III. Do.			..	..	..	..	..	..	48	3·73	7	0·55
32	Athni do.	11,588	..	..	....	..	..					..	..	..	..	..	..	..	..	11	0·95
33	Belgaum Town	26,947	..		P. 392	372	764														
					R. 14	3	17														
34	Do. Cantonment	5,330	..	1	P. 59	42	101	885	764	313	418	743	17	15	97·25	88·24	28·13	922	34·22	41	1·52
					R. 1	2	3		101	48	48	97	3	2	9·04	66·67	18·57	30	5·63	2	0·38
35	In the 7 Rural Circles, Local Fund	882,273	..	11	P. 8,121	7,815	15,936	1,459	15,951	8,424	6,667	15,613	109	108	97·97	99·08	17·83	16,374	18·55	421	0·48
					R. 91	18	109														
	Total	938,750	204·43	12	P. 8,672	8,229	16,901	1,411	16,816	8,785	7,133	16,453	129	125	97·93	96·90	17·66	17,374	18·51	482	0·51
					R. 106	23	129														
	Dha'rwa'r Collectorate—																				
36	Dhárwár Town	27,136	..	1	P. 533	406	939	987	939	520	306	903	48	36	96·17	75·00	34·60	1,185	43·67	30	1·11
					R. 48	..	48														
37	Hubli do.	37,961	..	1	P. 481	520	1,001	1,041	1,012	661	278	952	40	33	95·10	82·50	25·95	991	26·11	22	0·58
					R. 40	..	40														
38	Gadag-Bettigeri Town	19,035	..	1		427	427	864	864	866	644	170	815	..	..	94·33	..	42·82	885	46·49	4	0·21
39	Ránebennur do. Local Fund	11,623	..	1		365	397	762	762	762	326	355	732	..	..	96·06	..	62·98	41	3·53	38	2·41
40	In the 14 Rural Circles, do.	892,282	..	14	P. 7,294	6,785	14,079	1,024	14,098	6,667	6,102	13,392	256	144	95·12	56·25	15·17	13,760	15·42	578	0·65
					R. 228	28	256														
	Total	988,037	216·43	18	P. 9,110	8,535	17,645	999	17,677	8,818	7,211	16,794	344	213	95·18	61·92	17·21	16,832	17·04	662	0·67
					R. 316	28	344														
	Kala'dgi Collectorate—																				
41	Bagalkot Town	14,002	..	1	P. 292	284	576	585	577	375	168	553	9	5	96·01	55·56	39·85	739	52·78	..	..
42	Kaládgi do. Local Fund				R. 8	1	9														
					P. 121	77	198		..												
43	Do. Cantonment do.	6,592	..	..	R. 56	11	67		..	198	60	109	172	67	64	86·87	95·52	35·80	105	15·93	4	0·61
					....	..	..														
44	In the 8 Rural Circles do.	795,443	..	8	P. 4,985	4,739	9,724	1,236	9,734	5,090	3,730	9,365	167	134	96·28	80·24	11·93	14,135	17·77	207	0·26
					R. 146	21	167														
	Total	816,037	143·29	9	P. 5,398	5,100	10,498	1,193	10,509	5,525	4,007	10,088	243	203	96·09	83·54	12·61	14,979	18·36	211	0·26
					R. 210	33	243														
45	**Kolha'pur States**	802,691	288·95	11	P. 8,296	8,089	16,385	1,496	16,401	9,264	6,132	15,780	76	55	96·31	72·37	19·73	14,516	18·08	..	..
					R. 72	4	76														
	Southern Mara'tha Ja'ghi'rs—																				
46	Sángli	223,663	249·62	4	P. 1,355	1,242	2,597	653	2,597	1,122	1,153	2,392	17	13	92·11	76·47	10·75	2,998	13·33	..	..
					R. 8	9	17														
47	Jámkhandi	102,346	208·02	2	P. 977	1,042	2,019	1,013	2,019	1,039	761	1,961	7	7	97·12	100·	19·23	2,077	20·29	..	..
					R. 7	..	7														
48	Miraj (Senior)	68,428	272·62	2	P. 951	845	1,796	912	1,829	886	727	1,683	28	24	93·71	85·71	24·94	1,159	16·94	..	..
					R. 21	7	28														
49	Do. (Junior)	35,601	171·99	1		357	281	638	638	638	406	232	638	..	..	100·	..	17·92	422	11·85	..	..
50	Kurundvád (elder)	39,420	216·59	1	P. 364	315	679	684	679	228	390	632	5	5	93·08	100·	16·16	717	18·49	..	..
					R. 5	..	5														
51	Do. (younger)	30,251	265·38	1		195	216	411	411	150	238	391	..	..	95·13	..	12·93	420	13·88	..	..
52	Mudhol	58,921	162·76	1	P. 467	514	981	989	981	469	453	969	8	8	98·78	100·	16·58	1,011	17·16	..	..
53	Rámdurg	38,031	271·65	1	R. 8	..	8														
					327	320	647	647	647	224	332	633	..	..	97·83	..	16·64	583	15·33	..	..
	Total	596,661	225·58	13	P. 4,993	4,775	9,768	756	9,801	4,524	4,295	9,299	65	57	95·20	87·69	15·68	9,382	15·72	..	..
					R. 49	16	65														
	Sa'ta'ra Ja'ghi'rs—																				
54	Pant Pratinidhi	68,335	320·82	1	P. 553	600	1,153	1,154	1,161	585	320	906	1	..	78·58	..	13·20	717	10·49	..	..
					R. 1	..	1														
55	Pant Sacheo	136,075	91·26	2	P. 1,098	1,010	2,108	1,058	2,112	962	1,057	2,100	9	9	99·62	100·	15·50	3,210	23·59	..	..
					R. 7	2	9														
56	Phaltan	59,124	148·93	1	P. 671	594	1,265	1,273	1,265	546	675	1,244	8	7	98·34	87·50	21·16	922	15·59	..	..
					R. 8	..	8														
57	Jath	70,665	91·77	1	P. 486	425	911	931	934	513	216	747	20	7	82·00	35·00	10·67	959	13·57	..	..
					R. 16	4	20														
	Total	334,199	116·40	5	P. 2,808	2,629	5,437	1,095	5,472	2,606	2,268	4,997	38	23	91·91	60·53	15·02	5,808	17·38	..	..
					R. 32	6	38														

Statement No. I. showing Particulars of Vaccination, &c.—*continued.*

Number.	Circles and Districts.	Population of Districts according to Census of 1872.	Average Population per Square Mile.	Average Number of Vaccinators employed throughout the Season.	Total Number of Persons Vaccinated.			Average Number of Persons Vaccinated by each Vaccinator.	Primary Vaccinations.				Revaccinations.		Percentage of Successful Cases.		Persons successfully Vaccinated per 1,000 of Population.	Average Annual Number of Persons successfully Vaccinated *during previous* five years.		Average Annual Number of Deaths from Small-pox during previous five years.	
									Total.	Successful.			Total.	Successful.	Primary.	Revaccination.		Number	Ratio per 1,000.	Number	Ratio per 1,000.
										Under 1 year.	Over 1 and under 6 years.	Total of all Ages.									
1	2	3	4	5	6			7	8	9	10	11	12	13	14	15	16	17	18	19	20
	THE SOUTHERN DECCAN REGISTRATION DISTRICT—*continued.*				Males.	Females.	Total.														
	UNDER THE DHA'RWA'R AGENCY—																				
58	Savanúr State	17,288	247·04	1	P 333 / R 18	306 / 9	639 / 27	666	646	334	266	627	27	22	98·12	81·48	37·54	499	28·86	..	..
	TOTALS BY ESTABLISHMENTS IN SOUTHERN DECCAN REGISTRATION DISTRICT.																				
	Municipal	171,594	57198·	6	P 2,563 / R 384	2,431 / 6	4,994 / 390	897	5,008	3,092	1,597	4,812	390	360	96·35	92·31	30·14	7,769	45·28	108	0·63
	Local Fund	3,632,232	184·81	47	P 34,204 / R 992	32,203 / 97	66,407 / 1,089	1,436	66,505	37,094	25,295	64,528	1,089	848	97·17	77·87	18·00	69,902	19·52	1,491	0·41
	Native State	1,750,839	209·33	30	P 16,430 / R 171	15,799 / 35	32,229 / 206	1,081	32,320	16,728	12,961	30,703	206	157	95·27	76·21	17·63	30,205	17·25	..	..
	Grand Total ..	5,554,665	198·23	83	P 53,197 / R 1,547	50,433 / 138	103,630 / 1,685	1,269	103,833	56,914	39,853	100,043	1,685	1,365	96·54	81·01	18·25	107,876	19·42	1,599	0·29
	THE KONKAN REGISTRATION DISTRICT.																				
	KA'NARA COLLECTORATE—																				
59	Kárwár Town Local Fund	13,263	..	..	P 44 / R ..	53 / 1	97 / 1	..	99	23	58	83	1	1	85·57	100·	6·33	68	5·13	..	..
60	Kumta do. do.	10,932	..	..	..	..	..	*Vide*	Statement No. III.			..	..	..	..	..	..	..	..	4	0·37
61	In the 11 Rural Circles, Local Fund	374,211	..	11	P 4,789 / R 374	4,499 / 208	9,288 / 582	897	9,305	1,817	4,831	8,633	582	408	94·02	70·10	24·16	10,411	27·82	129	0·34
	Total ..	398,406	94·07	11	P 4,833 / R 374	4,552 / 209	9,385 / 583	906	9,404	1,840	4,889	8,716	583	409	92·87	70·15	22·90	10,479	26·30	133	0·33
	RATNA'GIRI COLLECTORATE—																				
62	Vengurla Town Local Fund	14,996	..	..	P 124	107	231	..	231	59	158	231	..	..	100·	..	15·40	101	6·73	2	0·13
63	Ratnágiri do. do.	10,614	..	..	P 100 / R 11	89 / ..	189 / 11	..	189	19	106	137	11	..	72·49	..	12·91	50	4·71	17	1·60
64	In the 8 Rural Circles, Local Fund	993,526	..	13	P 10,583 / R 1,254	10,094 / 1,321	20,677 / 2,575	1,789	20,738	10,783	9,014	20,374	2,575	1,997	98·53	77·55	22·52	27,200	27·38	507	0·51
	Total ..	1,019,136	268·97	13	P 10,807 / R 1,265	10,290 / 1,321	21,097 / 2,586	1,822	21,158	10,861	9,278	20,742	2,586	1,997	98·31	77·22	22·31	27,351	26·84	526	0·52
	KOLA'BA COLLECTORATE—																				
65	Alibág Town Local Fund	5,473	..	..	P 67 / R 2	43 / 5	110 / 7	..	110	69	39	108	7	5	98·18	71·43	20·65	21	3·84	10	1·83
66	Mahád do. do.	6,631	6631·	..	..	..	..	*Vide*	Statement No. III.			..	..	..	..	..	..	..	..	5	0·75
67	In the 6 Rural Circles, Local Fund	388,301	228·43	5	P 4,463 / R 84	4,271 / 62	8,734 / 146	1,776	8,766	5,630	2,832	8,556	146	137	97·96	93·84	25·70	8,205	24·25	166	0·49
	Total ..	350,405	236·44	5	P 4,530 / R 86	4,314 / 67	8,844 / 153	1,799	8,876	5,699	2,921	8,664	153	142	97·95	92·81	25·13	8,226	23·48	181	0·52

	THA'NA COLLECTORATE—																			
68	Kalyán Town Local Fund	12,804	4268·	..	P 2	1	3	..	3	1	1	2	..	..	66·66	..	0·16	15	1·17	10	0·78
69	Thána do.	14,299	3574·75	1	P 603 R 387	293 43	896 430	1,326	896	410	147	896	430	279	100·	64·88	82·17	1,039	72·66	10	0·70
70	Panvel do.	10,836	1806·	1	P 440 R 7	380 5	820 12	1,183	825	639	169	820	12	9	100·	75·00	76·50	505	46·60	5	0·46
71	Uran do.	8,690	..		P 174	177	351		351	224	120	350	..	..	99·71	..	40·28	406	46·72	..	..
72	In the 11 Rural Circles, Local Fund	800,795	198·26	13	P 10,051 R 41	9,668 25	19,719 66	1,522	19,735	10,362	8,509	19,308	66	52	97·92	78·79	24·18	16,384	20·46	433	0·54
	Total	847,424	209 13	15	P 11,270 R 435	10,519 73	21,789 508	1,486	21,810	11,636	8,946	21,376	508	340	98·10	66·93	25·63	18,349	21·65	458	0·54
	NATIVE STATES—																				
73	Sávantvádi	190,814	212·02	1	P 2,196 R 246	2,092 57	4,282 303	4,585	4,354	1,974	1,943	4,128	303	123	96·40	40·59	22·28	5,367	28·13	..	..
74	Janjira	71,996	476·79	1	P 1,271 R 9	1,311 ..	2,582 9	2,591	2,582	1,422	1,114	2,574	9	9	99·69	100·	35·88	1,849	25·68	..	..
75	Jawhár	37,406	70·05	1	771	717	1,488	1,488	1,488	816	608	1,486	..	..	99·87	..	39·73	1,214	32·45	..	..
	TOTALS BY ESTABLISHMENTS IN KONKAN REGISTRATION DISTRICT.																				
	Municipal	33,825	3382·50	2	P 1,217 R 394	850 48	2,067 442	1,254	2,072	1,273	436	2,066	442	288	99·95	65·15	69·59	1,950	57·65	15	0·44
	Local Fund	2,581,546	190·55	42	P 30,223 R 1,766	28,825 1,622	59,048 3,388	1,487	59,176	28,763	25,598	57,432	3,388	2,600	97·26	76·14	23·25	62,454	24·19	1,283	0·50
	Native State	300,216	189·41	3	P 4,232 R 255	4,120 57	8,352 312	2,888	8,424	4,212	3,665	8,188	312	132	98·04	42·31	27·71	8,430	28·08	..	..
	Grand Total	2,915,587	192·54	47	P 35,672 R 2,415	33,795 1,727	69,467 4,142	1,566	69,672	34,248	29,699	67,686	4,142	3,020	97·44	72·91	24·25	72,834	24·96	1,298	0·45
	THE PRESIDENCY CIRCLE.																				
76	Bombay City (Municipal)	644,405	29291·13	8	P 7,530 R 1,236	7,254 106	14,784 1,342	2,016	15,459	10,416	2,861	13,533	1,342	975	91·54	72·65	22·51	16,120	25·02	1,042	1·62
	THE EASTERN GUJARA'T REGISTRATION DISTRICT.																				
	SURAT COLLECTORATE—																				
77	Surat Town	107,149	35716·33	1	P 965 R 119	829 4	1,794 123	1,917	1,794	1,117	605	1,732	123	27	96·54	21·95	16·42	1,863	17·39	118	1·10
78	Bulsár do.	11,315	..	..	....	..	..	*Vide*	Statement No. III.				..	..	..	..	..	..	..	8	0·71
79	In the 8 Rural Circles, Local Fund	488,623	308·28	8	P 6,039 R 57	5,722 18	11,761 75	1,479	11,785	7,118	4,153	11,432	75	43	97·20	57·33	23·48	12,804	26·20	448	0·92
	Total	607,087	382·30	9	P 7,004 R 176	6,551 22	13,555 198	1,528	13,579	8,235	4,758	13,164	198	70	97·11	35·36	21·79	14,667	24·15	574	0·94
	BROACH COLLECTORATE—																				
80	Broach City	36,932	..	1	P 364 R 18	317 ..	681 18	699	681	391	245	643	18	9	94·42	50·00	17·65	780	21·12	61	1·61
81	Jambusar Town	14,924	..	..	....	..	..	*Vide*	Statement No. III.				..	..	..	..	..	..	..	5	0·33
82	In the 6 Rural Circles, Local Fund	298,466	..	5	P 2,520 R 70	2,348 12	4,868 82	900	4,911	3,642	1,061	4,720	82	21	96·96	25·11	18·88	6,735	22·55	179	0·59
	Total	350,322	257·97	6	P 2,884 R 88	2,665 12	5,549 100	941	5,592	4,033	1,306	5,363	100	30	96·65	30·00	15·34	7,515	21·45	245	0·69

Statement No. I. showing Particulars of Vaccination, &c.—*continued.*

Number.	Circles and Districts.	Population of Districts according to Census of 1872.	Average Population per Square Mile.	Average Number of Vaccinators employed throughout the Season.	Total Number of Persons vaccinated.			Average Number of Persons vaccinated by each Vaccinator.	Primary Vaccinations.				Revaccinations.		Percentage of Successful Cases.		Persons successfully vaccinated per 1,000 of Population.	Average Annual Number of Persons successfully vaccinated during previous five years.		Average Annual Number of Deaths from Small-pox during previous five years.	
									Total.	Successful.			Total.	Successful.	Primary.	Revaccination.		Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
										Under 1 year.	Over 1 and under 6 years.	Total of all Ages.									
1	2	3	4	5	6			7	8	9	10	11	12	13	14	15	16	17	18	19	20
	THE EASTERN GUJARA'T REGISTRATION DISTRICT—*continued.*				Males.	Females.	Total.														
	Kaira Collectorate—																				
83	Nadiád Town	24,551	2455·10	1	P 405	325	730	763	731	599	100	699	33	8	95·75	24·24	28·79	1,005	40·93	9	0·36
					R 33	..	33														
84	Kaira do. Local Fund	12,681	1585·12	..	104	90	194	..	194	121	53	175	..	..	90·20	..	13·80	252	11·99	2	0·16
85	Borsad do.	12,214	1221·40	..	..	..	..	*Vide* Statement No. III.	Ditto.									42	3·43	11	0·90
86	Kapadvanj Town	13,982	1997·42	..	..	..	..											..	..	1	0·07
87	In the 7 Rural Circles, Local Fund	719,305	471·36	8	P 8,727	7,289	16,016	2,011	16,079	12,678	2,766	15,503	71	45	96·79	64·28	21·62	18,203	25·31	334	0·47
					R 62	8	70														
	Total	782,733	501·43	9	P 9,236	7,704	16,940	1,894	17,004	13,398	2,919	16,377	104	53	96·67	51·46	20·99	19,502	24·91	357	0·45
					R 95	8	103														
	Panch Maha'ls—																				
88	Godhra Town	10,641	..	..	..	..	..	*Vide* Statement No. III.					..	..	..	..	..	..	..	10	0·94
89	Dohad do. Local Fund	11,472	..	..	P 157	153	310	..	310	206	80	289	228	67	93·22	29·38	31·03	462	40·27	12	1·04
					R 228	..	228														
90	In the 5 Rural Circles, Local Fund	218,630	..	5	P 2,878	2,631	5,509	1,114	5,522	3,800	1,350	5,324	59	34	96·64	57·63	24·50	7,669	35·07	41	0·19
					R 38	21	59														
	Total	240,743	139·88	5	P 3,035	2,784	5,819	1,221	5,832	4,006	1,430	5,613	287	101	96·46	35·19	23·73	8,131	33·77	63	0·26
					R 266	21	287														
	Ahmedabad Collectorate—																				
91	Gogha Town, Local Fund	9,571	..	..	P 152	108	260	..	260	160	68	235	175	86	90·38	49·14	34·16	117	12·22	3	0·31
					R 113	62	175														
92	Dholka Town	20,854	..	1	P 339	270	609	613	617	510	26	538	4	3	88·34	75·00	25·94	629	30·16	6	0·29
					R 4	..	4														
93	Viramgám Town { Municipal	19,661	..	..	..	143	313	..	319	252	44	296	..	..	94·57	..	26·04	779	39·62	14	0·71
	{ Local Fund				P 132	104	236		237	193	22	215	1	1	91·10	100·					
					R ..	1	1														
94	Ahmedabad City	116,873	58436·50	2	P 1,963	1,912	3,875	1,845	3,878	3,234	572	3,825	15	10	98·70	66·66	32·81	4,448	38·06	4	0·03
					R 12	3	15														
95	Ahmedabad Cantonment	1,883	627·66	..	37	43	80	..	80	65	15	80	..	..	100·	..	42·49	19	10·09	1	0·05
96	In the 7 Rural Circles { Municipal	660,795	169·57	..	38	48	86	..	89	73	7	80	..	..	93·02	..	23·56	16,507	24·98	301	0·45
	{ Local Fund			11	P 8,128	7,631	15,759	1,489	15,830	11,273	3,884	15,234	616	337	96·66	54·70					
					R 490	126	616														
	Total	829,637	215·83	14	P 10,932	10,286	21,218	1,573	21,310	15,760	4,638	20,503	811	437	96·63	53·88	25·24	22,499	27·11	329	0·39
					R 619	192	811														

97	Rewa Kántha States		505,732	1504·45	11	P	6,110	5,848	11,958	1,093	12,067	5,071	5,338	11,517	64	54	96·31	84·38	22·88	12,658	25·03	..	..
						R	48	16	64														
98	Mahi Kántha States		447,056	111·76	5	P	4,987	4,649	9,636	1,930	9,697	5,331	3,958	9,468	12	6	98·23	50·00	21·19	9,642	21·57	..	..
						R	12	..	12														
99	Cambay		83,494	238·51	1	P	888	753	1,641	1,649	1,646	1,314	239	1,659	8	2	95·00	25·00	18·70	2,259	27·06	..	..
						R	5	3	8														
100	Surat Agency	Dharampur	74,592	331·51	1		1,587	1,613	3,200	3,200	3,203	1,008	1,554	3,130	..	..	97·81	..	41·96	2,868	38·45	..	..
101		Bánsda	32,154	98·94	1		687	692	1,379	1,379	1,379	461	768	1,303	..	..	94·49	..	40·52	1,241	38·60	..	..
102		Sachín Local Fund	17,103	263·12	..	P	150	174	324	..	324	199	100	300	3	3	92·59	100·	17·72	408	23·86	..	..
						R	3	..	3														
103	Jámbughoda Local Fund		6,837	47·81	..		23	27	50	..	50	34	14	48	..	..	96·00	..	7·02	222	32·47	..	..
	TOTALS BY ESTABLISHMENTS IN EASTERN GUJARA'T REGISTRATION DISTRICT.																						
	Municipal		337,685	18760·28	6	P	4,254	3,914	8,168	1,393	8,189	6,241	1,614	7,893	193	57	96·64	29·53	23·54	10,485	31·05	212	0·63
						R	186	7	193														
	Local Fund		2,496,777	243·07	37	P	29,010	26,277	55,287	1,530	55,502	39,424	13,551	53,475	1,310	637	96·72	48·66	21·67	62,459	25·02	1,355	0·54
						R	1,061	248	1,309														
	Native State		1,143,028	120·40	19	P	14,259	13,555	27,814	1,468	27,992	13,185	11,857	26,977	84	62	96·99	73·81	23·66	28,668	25·08	..	..
						R	65	19	84														
	Grand Total		3,977,490	201·05	62	P	47,523	43,746	91,269	1,498	91,683	58,850	27,022	88,345	1,587	756	96·80	47·67	22·40	101,612	25·55	15·67	0·39
						R	1,312	274	1,586														
	THE WESTERN GUJARA'T CIRCLE.																						
	KA'THIA'WA'R STATES.																						
104	Jálávád Pránt	Limbdi	45,940	163·82	1	P	519	447	966	971	969	428	450	901	5	4	93·27	80·00	19·70	1,615	35·15	..	..
						R	3	2	5														
105		Dhrángadra	100,000	87·26	1	P	852	896	1,748	1,754	1,748	1,060	584	1,657	6	5	94·79	83·33	16·62	2,007	20·07	..	..
						R	6	..	6														
106		In five other States	313,523	76·71	5	P	4,137	3,881	8,018	1,667	8,020	5,372	2,165	7,634	317	255	95·21	80·44	25·16	9,875	31·50	..	..
						R	200	117	317														
	Total		459,463	83·33	7	P	5,508	5,224	10,732	1,680	10,737	6,860	3,199	10,192	328	264	94·97	80·49	22·76	13,497	29·38	..	..
						R	209	119	328														
107	Hálár Pránt	Rájkot	33,086	136·69	1	P	966	949	1,915	2,042	1,915	1,324	497	1,849	11	6	96·55	54·55	56·06	2,024	61·17	..	..
						R	4	7	11														
108		Do. Cantonment	3,684			P	59	55	114		114	79	27	111	2	2	97·37	100·	30·67	606	164·49	..	..
						R	1	1	2														
109		Gondal	137,217	196·21	2	P	1,744	1,557	3,301	1,676	3,307	2,300	715	3,051	51	27	92·43	52·94	22·43	3,257	23·74	..	..
						R	30	21	51														
110		Morvi	90,616	85·33	1	P	1,179	1,174	2,353	2,404	2,361	1,468	747	2,268	51	42	96·39	82·35	25·49	2,153	23·76	..	..
						R	29	22	51														
111		Navánagar	290,847	85·71	3	P	3,182	2,982	6,164	2,077	6,164	3,780	1,520	5,375	66	31	87·20	46·97	18·59	6,002	20·64	..	..
						R	53	13	66														
112		In three other States	91,754	127·95	3	P	3,093	2,904	5,997	2,021	6,017	2,739	2,428	5,279	66	23	88·03	34·85	57·78	4,598	50·11	..	..
						R	37	29	66														
	Total		647,204	105·39	10	P	10,223	9,621	19,844	2,009	19,878	11,690	5,932	17,933	247	131	90·37	53·04	27·91	18,640	28·80	..	..
						R	154	93	247														
113	Sorath Pránt	Junágad	380,921	100·24	4	P	2,537	2,308	4,845	1,228	4,871	3,036	1,355	4,530	69	41	93·50	59·42	12·00	6,839	17·95	..	..
						R	46	23	69														
114		Jetpur	95,620	165·37	1	P	643	630	1,273	1,290	1,273	842	315	1,179	17	15	92·62	88·23	12·49	1,865	19·50	..	..
						R	9	8	17														
115		Porbandar	72,077	134·69	1	P	781	695	1,476	1,493	1,477	1,025	358	1,419	17	13	96·14	76·47	19·87	1,803	25·01	..	..
						R	9	8	17														
116		Bántva	40,314	193·44	1	P	1,180	1,021	2,201	2,406	2,201	1,104	348	1,962	205	150	89·14	73·17	52·39	2,338	57·99	..	..
						R	111	94	205														
117		In four other States	45,377	204·41	4	P	3,090	2,797	5,887	1,571	5,905	3,482	1,468	5,265	398	272	89·43	68·34	122·02	5,091	112·19	..	..
						R	220	178	398														
	Total		634,309	118·70	11	P	8,231	7,451	15,682	1,490	15,727	9,489	3,844	14,355	706	491	91·54	69·55	23·40	17,936	28·28	..	..
						R	395	311	706														
118	Gohelvád Pránt	Bhávnagar	399,688	143·57	6	P	5,290	5,046	10,336	1,859	10,352	5,555	3,323	9,421	818	510	91·15	62·35	24·85	12,394	31·01	..	..
						R	426	392	818														
119		Pálitána	171,965	308·71	1	P	1,037	965	2,002	2,072	2,002	838	722	1,781	70	22	88·96	31·43	10·48	1,562	9·08	..	..
						R	55	15	70														
120		Vala			1	P	1,110	990	2,100	2,163	2,100	1,091	636	1,864	63	39	88·76	61·90	11·07	2,066	12·01	..	..
						R	46	17	63														
	Total		571,653	171·10	8	P	7,437	7,001	14,438	1,924	14,454	7,484	4,691	13,066	951	571	90·50	60·04	23·86	16,022	28·03	..	..
						R	527	424	951														
	Káthiáwár States, Total		2,312,629	113·69	36	P	31,399	29,297	60,696	1,748	60,796	35,523	17,666	55,546	2,232	1,457	91·51	65·28	24·65	66,095	28·58	..	..
						R	1,285	947	2,232														

Statement No. I. showing Particulars of Vaccination, &c.—*continued.*

Number.	Circles and Districts.	Population of Districts according to Census of 1872.	Average Population per Square Mile.	Average Number of Vaccinators employed throughout the Season.	Total Number of Persons Vaccinated.			Average Number of Persons Vaccinated by each Vaccinator.	Primary Vaccinations.				Revaccinations.		Percentage of Successful Cases.		Persons successfully Vaccinated per 1,000 of Population.	Average Annual Number of Persons successfully Vaccinated during previous five years.		Average Annual Number of Deaths from Small-pox during previous five years.	
									Total.	Successful.			Total.	Successful.	Primary.	Revaccination.		Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
										Under 1 year.	Over 1 and under 6 years.	Total of all Ages.									
1	2	3	4	5	6			7	8	9	10	11	12	13	14	15	16	17	18	19	20
	THE WESTERN GUJARA'T CIRCLE—*continued.*				Males.	Females.	Total.														
	Pálanpur States—																				
121	Deesa	49,821	..	1	976	879	1,855	2,101	1,855	1,314	461	1,775	..	..	95·69	..	35·62	2,347	39·67	..	..
122	Do. Cantonment	9,335	..		146	160	246		246	225	19	245	..	..	99·59	..	26·25				
123	Pálanpur	156,816	65·77	2	2,388	2,313	4,701	2,350	4,713	2,750	1,666	4,421	..	..	94·04	..	28·25	4,105	26·11	..	..
124	Rádhanpur	91,579	98·57	1	645	669	1,314	1,314	1,314	441	560	1,003	..	..	76·33	..	10·95	1,349	14·73	..	..
125	In three other States	195,035	71·23	3	P. 3,128	2,984	6,112	2,336	6,113	3,991	1,739	5,807	897	547	95·01	60·98	32·57	6,309	32·36	..	..
					R. 492	405	897														
	Total	502,586	83·19	7	P. 7,283	6,945	14,228	2,161	14,241	8,721	4,445	13,251	897	547	93·13	60·98	27·45	14,110	28·07	..	..
					R. 492	405	897														
	TOTALS BY ESTABLISHMENTS IN WESTERN GUJARA'T CIRCLE.																				
	Government	95,926	356·60	2	P. 2,147	1,983	4,130	2,071	4,130	2,942	1,004	3,980	13	8	96·37	61·54	41·57	4,630	43·27	..	..
					R. 5	8	13														
	Native State	2,719,289	104·14	41	P. 36,535	34,259	70,794	1,803	70,907	41,302	21,107	64,817	3,116	1,996	91·55	64·06	24·57	75,575	27·79	..	..
					R. 1,772	1,344	3,116														
	Grand Total	2,815,215	106·72	43	P. 38,682	36,242	74,924	1,815	75,037	44,244	22,111	68,797	3,129	2,004	91·82	64·05	25·15	80,205	28·49	..	..
					R. 1,777	1,352	3,129														
	THE SIND REGISTRATION DISTRICT.																				
	Kara'chi Collectorate—																				
126	Karáchi Town	53,526	2676·30	2	P. 2,188	2,015	4,203	2,314	4,272	1,917	1,702	4,163	1,426	1,014	99·05	71·11	96·72	2,969	55·47	175	3·27
					R. 1,206	220	1,426														
127	In the 13 Rural Circles, Local Fund	369,969	26·29	9	P. 6,525	5,795	12,320	1,883	12,334	7,495	3,968	11,870	4,624	3,519	96·35	76·10	44·30	19,370	52·36	813	2·20
					R. 1,856	2,768	4,624														
	Total	423,495	30·05	11	P. 8,713	7,810	16,523	2,052	16,606	9,412	5,670	16,033	6,050	4,533	97·03	74·93	48·56	22,339	52·75	988	2·33
					R. 3,062	2,988	6,050														
	Hyderabad Collectorate—																				
128	Hyderabad Town	35,272	..	1	P. 505	474	979	1,805	979	678	292	975	826	751	99·59	90·92	48·93	2,003	56·79	237	6·72
					R. 824	2	826														
129	In the 13 Rural Circles, Local Fund	686,675	..	13	P. 10,843	8,923	19,766	2,164	19,836	10,126	8,261	19,096	8,376	6,014	96·61	71·72	36·71	29,384	42·79	1,008	1·47
					R. 4,765	3,607	8,372														
	Total	721,947	79·75	14	P. 11,348	9,397	20,745	2,139	20,815	10,804	8,553	20,071	9,202	6,765	96·75	73·55	37·17	31,387	43·46	1,245	1·72
					R. 5,589	3,609	9,198														
	Thar and Pa'rkar—																				
130	Umarkot Town	3,999	..	..	....	....	*Vide* Statement No. III.		..	..	..	..	..	..	..	..	..	..	..	1	0·25
131	In the 7 Rural Circles, Local Funds	176,672	..	7	P. 4,691	3,994	8,685	2,205	8,694	4,369	3,841	8,469	6,750	5,728	97·51	84·86	80·36	11,022	62·39	8	0·05
					R. 2,211	4,539	6,750														
	Total	180,761	14·20	7	P. 4,691	3,994	8,685	2,205	8,694	4,369	3,841	8,469	6,750	5,728	97·51	84·86	78·54	11,022	60·98	9	0·05
					R. 2,211	4,539	6,750														
	Shika'rpur Collectorate—																				
132	Shikárpur Town	38,107	7621·40	1	P. 816	805	1,621	3,726	1,832	1,425	123	1,575	2,148	1,366	97·16	64·89	77·18	2,136	56·05	35	0·92
					R. 2,079	26	2,105														
133	Sukkur do.	13,318	4,439·33	2	P. 898	558	1,456	1,346	1,456	1,120	306	1,431	1,236	1,157	98·28	93·61	194·32	2,123	159·78	2	0·15
					R. 530	706	1,236														
134	Lárkhána do.	10,643	..	1	P. 272	228	500	549	501	386	35	433	49	25	86·60	51·02	43·03	56	5·26	9	0·85
					R. 41	8	49														
135	In the 17 Rural Circles, Local Fund	714,159	81·11	17	P. 14,344	12,788	27,132	2,169	27,237	17,752	7,075	25,845	9,767	7,078	95·29	72·68	46·10	35,119	49·18	118	0·17
					R. 3,305	6,434	9,739														
	Total	776,227	88·08	21	P. 16,330	14,379	30,709	2,088	30,826	20,083	7,539	29,284	13,200	9,626	95·36	73·32	50·13	39,439	50·81	164	0·21
					R. 5,955	7,174	13,129														

	Upper Sind Frontier—																						
136	Jacobabad Town and Cantonment	5,205	..	3	P.	2,285	2,127	4,412	2,394	4,545	2,570	1,314	4,048	2,799	2,069	91·75	74·67	72·15	86	16·52	2	0·38
137	In the 3 Rural Circles, Local Fund	84,780	..		R.	910	1,861	2,771											5,905	69·65	22	0·26
	Total ..	89,985	47·03	3	P.	2,285	2,127	4,412	2,394	4,545	2,570	1,314	4,048	2,799	2,069	91·75	74·67	67·98	5,991	66·58	24	0·27
					R.	910	1,861	2,771														
	Native State—																					
138	Kairpur State	130,350	48·14	2	P.	1,091	871	1,962	1,048	1,962	1,168	679	1,913	135	105	97·45	77·78	15·48	3,398	26·07	..	..
					R.	57	78	135														
	TOTALS BY ESTABLISHMENTS IN SIND REGISTRATION DISTRICT.																					
	Municipal	156,071	5573·96	7	P.	4,679	4,080	8,759	2,057	8,840	5,526	2,458	8,577	5,685	4,313	97·92	76·44	82·59	9,570	61·32	459	2·95
					R.	4,680	962	5,642														
	Local Fund	2,036,344	43·73	49	P.	38,688	33,627	72,315	2,134	72,646	42,312	24,459	69,328	32,316	24,408	95·87	75·67	46·03	100,609	49·41	1,972	0·97
					R.	13,047	19,209	32,256														
	Native State	130,350	48·14	2	P.	1,091	871	1,962	1,048	1,962	1,168	679	1,913	135	105	97·50	77·78	15·48	3,398	26·07	..	..
					R.	57	78	135														
	Grand Total ..	2,322,765	47·11	58	P.	44,458	38,578	83,036	2,087	83,448	49,006	27,596	79,818	38,136	28,826	96·12	75·79	46·77	113,577	48·90	2,431	1·05
					R.	17,784	20,249	38,033														
	THE BARODA CIRCLE.																					
139	Baroda States..	2,000,225	185·77	31	P.	27,516	25,226	52,742	1,709	53,004	37,649	12,558	50,693	230	161	96·12	70·31	25·42	47,286	23·64	..	..
					R.	140	89	229														
	THE CUTCH CIRCLE.																					
140	Cutch States	487,305	74·97	17	P.	9,298	8,577	17,875	1,064	17,989	9,106	7,487	17,359	215	164	97·11	76·64	35·96	10,170	20·87	..	..
					R.	113	101	214														
	ADEN.																					
141	Aden Municipality	19,289	1753·54	1	P.	689	406	1,095	1,144	1,095	61	356	699	49	29	63·84	59·18	37·74	856	44·38	..	..
					R.	35	14	49														
	TOTAL OF THE BOMBAY PRESIDENCY.																					
	BY ESTABLISHMENTS.																					
	Government	95,926	356·60	2	P.	2,147	1,983	4,130	2,071	4,130	2,942	1,004	3,980	13	8	96·37	61·54	41·57	4,630	47·22	..	..
					R.	5	8	13														
	Municipal	1,632,867	9173·41	39	P.	26,169	23,688	49,857	1,515	50,653	33,197	12,210	47,361	9,291	6,808	94·99	73·62	33·17	57,421	35·17	2,068	1·27
					R.	7,985	1,263	9,248														
	Cantonment	28,450	7112·50	1	P.	579	388	967	1,378	967	821	146	967	311	233	100·	74·92	42·18	963	33·85	17	0·60
					R.	305	6	311														
	Local Fund	14,610,686	117·69	241	P.	179,525	167,669	347,194	1,609	348,040	205,943	122,070	337,392	40,644	30,370	97·18	74·83	25·17	383,641	26·26	9,445	0·65
					R.	18,706	21,877	40,583														
	Native State	8,665,204	123·37	144	P.	110,205	103,206	213,411	1,513	214,247	124,067	70,983	202,210	4,404	2,863	94·75	65·04	23·67	206,684	23·85	..	..
					R.	2,643	1,759	4,402														
	In British Territory	16,261,082	131·02	282	P.	206,305	191,699	398,004	1,589	399,646	240,032	134,358	385,728	50,245	37,410	96·92	74·61	26·02	442,826	27·23	11,530	0·71
					R.	26,994	23,147	50,141														
	In Native State Territory	8,772,051	124·55	145	P.	112,320	105,235	217,555	1,531	218,391	126,938	72,054	206,182	4,418	2,872	94·77	65·04	23·83	210,513	24·00	..	..
					R.	2,650	1,766	4,416														
	GRAND TOTAL ...	25,033,133	128·67	427	P.	318,625	296,934	615,559	1,569	618,037	366,970	206,413	591,910	54,663	40,282	96·16	73·83	25·25	653,339	26·10	11,530	0·46
					R.	29,644	24,913	54,557														

STATEMENT No. II. showing the Cost of the Department

No.	Circles and Districts.	Establishment.																
		Deputy Sanitary Commissioners.	Superintendents of Circles.	Inspectors of Sanitation and Vaccination.			Assistant Superintendents of Vaccination.			Clerks and Kárkúns.	Vaccinators.							Havaldárs and Peons.
				1st Class.	2nd Class.	3rd Class.	1st Class.	2nd Class.	3rd Class.		Government.	Municipal.	Cantonment.	Local Fund.			Native State.	
														1st Class.	2nd Class.	3rd Class		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	THE NORTHERN DECCAN REGISTRATION DISTRICT.																	
	Administrative Charges	1	..	1	1	5	..	..	..	2	..	..	..	..	..	..	..	11
1	Khándesh Collectorate	..	..	..	..	..	..	..	..	..	..	1	..	1	7	16	..	24
2	Násik do.	..	..	..	..	..	..	..	..	..	..	1	..	1	5	6	..	13
3	Ahmednagar do.	..	..	..	..	..	..	..	..	..	..	1	..	1	5	6	..	13
4	Poona do.	..	..	..	..	..	..	..	..	..	..	3	1	1	4	5	..	13
5	Sholápur do.	..	..	..	..	..	..	..	..	..	..	3	..	1	3	4	1	12
	Total	1	..	1	1	5	..	..	..	2	..	9	1	5	24	37	1	86
	THE SOUTHERN DECCAN REGISTRATION DISTRICT.																	
	Administrative Charges	1	..	1	1	3	..	..	..	2	..	..	..	..	..	..	..	9
6	Sátára Collectorate	..	..	..	..	..	..	..	..	..	..	1	..	1	5	7	5	19
7	Belgaum do.	..	..	..	..	..	..	..	..	..	..	1	..	1	3	7	..	12
8	Dhárwár do.	..	..	..	..	..	..	..	..	..	..	3	..	1	5	9	1	19
9	Kaládgi do.	..	..	..	..	..	..	..	..	..	..	1	..	1	3	4	..	9
10	Kolhápur States	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	11	12
11	Southern Marátha Jághírs	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	13	14
	Total	1	..	1	1	4	..	..	1	2	..	6	..	4	16	27	30	94
	THE KONKAN REGISTRATION DISTRICT.																	
	Administrative Charges	1	..	1	1	2	..	..	..	2	..	..	..	..	..	..	..	8
12	Kánara Collectorate	..	..	..	..	..	..	..	..	..	..	..	..	1	3	7	..	11
13	Ratnágiri do.	..	..	..	..	..	..	..	..	..	..	..	..	1	6	6	1	17
14	Kolába do.	..	..	..	..	..	..	..	..	..	..	..	..	1	2	2	1	6
15	Thána do.	..	..	..	..	..	..	..	..	..	..	2	..	1	6	6	1	16
	Total	1	..	1	1	2	..	..	..	2	..	2	..	4	17	21	3	58
	THE PRESIDENCY CIRCLE.																	
	Administrative Charges	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	Bombay	..	..	..	..	..	1	..	..	15	..	9	..	..	..	..	..	3
	Total	..	1	..	..	..	1	..	..	15	..	9	..	..	..	..	..	3
	THE EASTERN GUJARA'T REGISTRATION DISTRICT.																	
	Administrative Charges	1	..	..	1	4	..	..	..	2	..	..	..	..	..	..	..	9
17	Surat Collectorate	..	..	..	..	..	..	..	..	..	..	1	..	1	3	4	2	11
18	Broach do.	..	..	..	..	..	..	..	..	..	..	1	..	1	1	3	..	6
19	Kaira do.	..	..	..	..	..	..	..	..	..	..	1	..	1	3	4	1	11
20	Panch Mahás	..	..	..	..	..	..	..	..	..	..	..	..	1	2	2	..	5
21	Ahmedabad Collectorate	..	..	..	..	..	..	..	..	..	..	3	..	1	3	7	..	14
22	Mahi Kántha Agency	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	2
23	Rewa Kántha do.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	11
	Total	1	..	..	1	4	..	..	..	2	..	6	..	5	12	20	19	69
	THE WESTERN GUJARA'T CIRCLE.																	
	Administrative Charges	..	1	..	..	..	..	1	1	2	..	..	..	..	..	..	..	6
24	Káthiáwár	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	35	36
25	Pálanpur	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	6	7
	Total	..	1	..	..	..	..	1	1	2	2	..	..	..	..	..	41	49
	THE SIND REGISTRATION DISTRICT.																	
	Administrative Charges	1	1	..	2	4	..	..	..	2	..	..	..	..	..	..	..	10
26	Karáchi Collectorate	..	..	..	..	..	..	..	..	..	..	2	..	1	4	4	..	9
27	Hyderabad do.	..	..	..	..	..	..	..	..	..	..	1	..	2	5	6	..	14
28	Thar and Párkar	..	..	..	..	..	..	..	..	..	..	..	..	1	2	4	..	7
29	Shikárpur Collectorate	..	..	..	..	..	..	..	..	..	..	4	..	1	6	10	2	23
30	Upper Sind Frontier	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	3
	Total	1	1	..	2	4	..	..	..	2	..	7	..	6	18	25	2	66
	THE BARODA CIRCLE.																	
31	Baroda States	..	..	1	1	1	..	..	..	..	..	..	..	..	..	..	31	34
	THE CUTCH CIRCLE.																	
32	Cutch States	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	17	17
	IN THE ADEN MUNICIPALITY.																	
33	Aden	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
	Total for the Bombay Presidency	5	3	4	7	20	2	1	2	27	2	40	1	24	87	130	144	477

DEPARTMENT.

in the Bombay Presidency during the year 1880-81.

Expenditure.				Paid From					Total.	Number of all Successful Vaccinations and Revaccinations.	Average Cost of each Successful Case.
Pay of Establishment.	Travelling Allowance.	Contingencies.	Total Cost.	Provincial Funds.	Local Funds.	Municipal Funds.	Cantonment Funds.	Native States Funds.			
20	21	22	23	24	25	26	27	28	29	30	31
Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		Rs. a. p.
15,491 0 0	2,277 6 6	935 15 3	18,704 5 9	18,704 5 9	....	....	..	....	18,704 5 9	..	....
6,659 15 10	....	471 11 9	7,131 11 7	....	6,891 11 7	240 0 0	..	....	7,131 11 7	34,089	0 3 4
3,641 8 0	....	276 8 6	3,918 0 6	....	3,653 8 6	264 8 0	..	....	3,918 0 6	18,939	0 3 4
3,619 0 0	....	297 6 3	3,916 6 3	....	3,660 4 6	256 1 9	..	....	3,916 6 3	22,115	0 2 10
3,876 11 2	....	460 11 4	4,337 6 6	....	3,053 13 3	1,082 11 9	200 13 6	....	4,337 6 6	17,487	0 4 0
3,548 6 10	....	348 1 3	3,896 8 1	....	2,513 12 9	990 7 4	..	392 4 0	3,896 8 1	15,289	0 4 1
36,836 9 10	2,277 6 6	2,790 6 4	41,904 6 8	18,704 5 9	19,773 2 7	2,333 12 10	200 13 6	392 4 0	41,904 6 8	1 07,919	0 6 3
10,766 4 7	1,073 6 2	877 3 0	12,716 13 9	12,716 13 9	....	....	..	....	12,716 13 9	..	....
4,982 6 3	....	225 5 4	5,207 11 7	....	3,798 5 9	294 0 6	..	1,115 5 4	5,207 11 7	31,692	0 2 7
3,291 8 0	....	112 7 3	3,403 15 3	....	3,146 4 0	257 11 3	..	....	3,403 15 3	16,578	0 3 3
5,044 4 9	....	194 7 5	5,238 12 2	....	4,327 8 0	641 1 4	..	270 2 10	5,238 12 2	17,656	0 4 9
2,473 8 0	....	82 8 1	2,556 0 1	....	2,448 0 1	108 0 0	..	....	2,556 0 1	10,291	0 4 0
3,645 4 7	....	130 3 6	3,775 8 1	....	....	....	..	3,775 8 1	3,775 8 1	15,835	0 3 10
3,457 2 3	120 0 0	131 9 6	3,708 11 9	....	....	.. ..	..	3,708 11 9	3,708 11 9	9,356	0 6 4
33,660 6 5	1,193 6 2	1,753 12 1	36,607 8 8	12,716 13 9	13,720 1 10	1,300 13 1	..	8,869 12 0	36,607 8 8	101,408	0 5 9
9,294 3 4	1,627 1 3	915 5 6	11,836 10 1	11,836 10 1	....	....	..	....	11,836 10 1	..	....
3,042 0 0	....	168 7 2	3,210 7 2	....	3,210 7 2	....	..	....	3,210 7 2	9,125	0 5 8
4,235 4 5	26 0 9	273 4 1	4,534 9 3	....	3,982 11 6	....	..	551 13 9	4,534 9 3	26,990	0 2 8
1,785 0 0	....	107 14 10	1,892 14 10	....	1,560 3 8	....	..	332 11 2	1,892 14 10	11,389	0 2 8
4,437 14 6	....	279 6 1	4,717 4 7	....	3,801 3 4	614 3 6	..	301 13 9	4,717 4 7	23,202	0 3 3
22,794 6 3	1,653 2 0	1,744 5 8	26,191 13 11	11,836 10 1	12,554 9 8	614 3 6	..	1,186 6 8	26,191 13 11	70,706	0 5 11
4,200 0 0	360 0 0	13 0 0	4,573 0 0	4,573 0 0	....	....	..	....	4,573 0 0	..	....
6,681 4 10	....	2,505 4 3	9,186 9 1	....	....	9,186 9 1	..	....	9,186 9 1	14,508	0 10 2
10,881 4 10	360 0 0	2,518 4 3	13,759 9 1	4,573 0 0	....	9,186 9 1	..	....	13,759 9 1	14,508	0 15 2
12,767 14 10	2,126 7 6	969 8 6	15,863 14 10	15,863 14 10	....	....	..	....	15,863 14 10	..	....
3,084 15 8	....	240 9 5	3,325 9 1	....	2,454 14 10	347 10 0	..	523 0 3	3,325 9 1	17,970	0 3 0
1,630 3 3	....	139 12 3	1,769 15 6	....	1,529 8 0	240 7 6	..	....	1,769 15 6	5,393	0 5 3
2,811 4 5	....	202 7 0	3,013 11 5	....	2,461 1 5	337 11 6	..	214 14 6	3,013 11 5	17,991	0 2 8
1,450 15 2	....	113 7 10	1,564 7 0	....	1,564 7 0	....	..	....	1,564 7 0	5,762	0 4 4
3,823 9 11	....	279 15 6	4,103 9 5	....	3,194 10 5	908 15 0	..	....	4,103 9 5	20,940	0 3 1
1,177 0 0	....	69 13 0	1,246 13 0	....	....	....	..	1,246 13 0	1,246 13 0	9,474	0 2 1
2,698 0 0	....	102 14 2	2,800 14 2	....	....	....	...	2,800 14 2	2,800 14 2	11,571	0 3 10
29,443 15 3	2,126 7 6	2,118 7 8	33,688 14 5	15,863 14 10	11,204 9 8	1,834 12 0	..	4,785 9 11	33,688 14 5	89,101	0 6 1
13,378 7 1	1,378 10 0	671 3 0	15,928 4 1	15,328 4 1	....	.. ..	..	600 0 0	15,928 4 1	..	....
11,095 7 8	420 0 0	299 12 9	11,815 4 5	252 0 0	....	.. ..	..	11,563 4 5	11,815 4 5	57,003	0 3 4
1,936 0 0	....	12 0 0	1,998 0 0	126 0 0	.. ..	.. ..	126 0 0	1,746 0 0	1,998 0 0	13,798	0 2 4
26,459 14 9	2,298 10 0	982 15 9	29,741 8 6	15,706 4 1	....	....	126 0 0	13,909 4 5	29,741 8 6	70,801	0 6 9
13,768 10 2	2,328 11 6	1,033 10 5	17,131 0 1	15,474 8 4	....	1,656 7 9	..	....	17,131 0 1	..	....
3,088 1 7	693 15 11	262 3 9	4,044 5 3	....	3,252 5 3	792 0 0	..	....	4,044 5 3	20,566	0 3 2
4,013 15 3	....	294 8 10	4,308 8 1	....	3,972 8 1	336 0 0	..	....	4,308 8 1	26,836	0 2 7
1,863 11 1	....	165 5 1	2,029 0 2	....	2,029 0 2	....	..	....	2,029 0 2	14,197	0 2 3
6,348 13 4	1,035 13 9	499 8 8	7,884 3 9	....	5,905 5 7	1,120 14 2	..	858 0 0	7,884 3 9	40,928	0 3 1
916 9 4	....	78 4 8	994 14 0	....	994 14 0	....	..	....	994 14 0	6,117	0 2 7
29,999 12 9	4,058 9 2	2,333 9 5	36,391 15 4	15,474 8 4	16,154 1 1	3,905 5 11	..	858 0 0	36,391 15 4	108,644	0 5 4
11,098 6 11	100 4 7	409 12 2	11,608 7 8	....	....	....	..	11,608 7 8	11,608 7 8	50,854	0 3 8
3,464 12 4	3,396 15 8	13 2 4	6,874 14 4	....	....	....	..	6,874 14 4	6,874 14 4	17,523	0 6 3
370 0 0	....	....	370 0 0	....	....	370 0 0	..	....	370 0 0	728	0 8 2
2,05,009 9 4	17,464 13 7	14,664 11 8	2,37,139 2 7	94,875 8 10	73,406 8 10	20,045 8 5	326 13 6	48,484 11 0	2,37,139 2 7	632,192	0 6 0

B.—DISPENSARY VACCINATION.

Statement No, III. showing Dispensary Vaccination in the Bombay Presidency during the year 1880-81.

	Districts.	Number of Dispensaries in each District to which a Vaccinator is attached.	Average Number of Vaccinators attached to Dispensaries during the Season.	Total Number of Persons Vaccinated.			Average Number of Persons Vaccinated by each Vaccinator.	Primary Vaccination.				Revaccination.		Percentage of Successful Cases.	
								Total.	Successful.			Total.	Successful.	Primary.	Revaccination.
									Under 1 year.	1 and under 6.	Total of all Ages.				
1		2	3	4			5	6	7	8	9	10	11	12	13
	THE NORTHERN DECCAN REGISTRATION DISTRICT.			Males.	Females.	Total.									
Khándesh Collectorate.	Párola	..	..	212	206	418	418	418	258	157	415	..	..	99·28	..
	Erandol	..	..	259	246	505	505	505	318	164	482	..	..	95·45	..
	Dharangaon	..	..	P. 8	15	23	47	23	16	7	23	24	24	100·	100·
				R. 19	5	24									
	Nandurbár	..	..	102	112	214	214	214	143	59	202	..	..	94·39	..
	Bhadgaon	..	..	P. 97	96	193	194	193	88	88	178	1	1	92·23	100·
				R. 1	..	1									
	Shirpur	..	..	92	92	184	184	184	150	33	183	..	..	99·45	..
	Total	..	..	P. 770	767	1,537	200	1,537	973	508	1,483	25	25	96·49	100·
				R. 20	5	25									
Násik Collectorate.	Sinnar	..	..	106	126	232	232	232	119	101	221	..	..	95·26	..
	Dindori	..	..	62	60	122	122	122	104	11	116	..	..	95·08	..
	Yeola	..	..	196	185	381	381	381	210	149	360	..	..	94·49	..
	Málegaon	..	..	104	98	202	202	202	94	96	190	..	..	94·06	..
	Sátána	..	..	94	102	196	196	196	156	39	196	..	..	100·	..
	Peint	..	..	55	38	93	93	93	37	40	78	..	..	83·87	..
	Pimpalgaon B.	..	..	51	75	126	126	126	71	40	112	..	..	88·89	..
	Total	..	..	668	684	1,352	193	1,352	791	476	1,273	..	..	94·16	..
Ahmednagar Collectorate.	Sangamner	..	..	22	25	47	47	47	25	20	47	..	..	100·	..
	Shevgaon	..	..	23	30	53	53	53	42	2	45	..	..	84·90	..
	Nevása	..	..	55	62	117	117	117	96	21	117	..	..	100·	..
	Total	..	..	100	117	217	72	217	163	43	209	..	..	96·31	..
Poona Collectorate.	Junnar	..	..	142	140	282	282	282	120	159	281	..	..	99·65	..
	Indápur	..	..	29	19	48	48	49	26	21	47	..	..	97·92	..
	Khed	..	..	P. 70	71	141	142	141	52	67	121	1	..	85·82	..
				R. 1	..	1									
	Sirúr	..	..	4	4	8	8	8	4	1	5	..	..	62·50	..
	Talegaon Dhamdhera	..	..	P. 51	45	96	98	96	32	51	84	2	2	87·50	100·
				R. ..	2	2									
	Sásvad	..	..	105	138	243	243	243	118	117	240	..	..	98·77	..
	Jejuri	..	..	34	40	74	74	74	45	21	68	..	..	91·89	..
	Bárámati	..	..	P. 73	50	123	124	124	70	39	109	1	..	88·62	..
				R. 1	..	1									
	Talegaon Dábháda	..	..	73	62	135	135	135	53	31	84	..	..	62·22	..
	Total	..	..	P. 581	569	1,150	128	1,152	520	507	1,039	4	2	90·35	50·00
				R. 2	2	4									
Sholápur Collectorate.	Karmála	..	..	41	40	81	81	81	52	20	72	..	..	88·89	..
	Akalkot	..	..	P. 80	72	152	164	152	133	10	143	12	9	94·08	75·00
				R. 9	3	12									
	Total for the Northern Deccan Registration District	..	..	P. 2,240	2,249	4,489	168	4,491	2,632	1,564	4,219	41	36	93·99	87·80
				R. 31	10	41									
	THE SOUTHERN DECCAN REGISTRATION DISTRICT.														
Sátára Collectorate.	Wái	..	..	P. 93	86	179	180	179	50	116	169	1	1	94·41	100·
				R. 1	..	1									
	Patan	..	..	62	46	108	108	108	78	14	96	..	..	88·89	..
	Karád	..	..	142	101	243	243	243	181	55	240	..	..	98·77	..
	Islámpur	..	..	P. 163	159	322	324	328	225	88	313	2	2	97·20	100·
				R. 2	..	2									
	Mhasvad	..	..	41	34	75	75	75	43	20	65	..	..	86·67	..
	Pusesávli	..	..	53	50	103	103	103	86	16	102	..	..	99·03	..
	Tásgaon	..	..	119	112	231	231	231	194	21	215	..	..	93·07	..
	Total	..	..	P. 673	588	1,261	181	1,267	857	330	1,200	3	3	95·16	100·
				R. 3	..	3									

Statement No. III. showing Dispensary Vaccination, &c.—*continued.*

Districts.	Number of Dispensaries in each District to which a Vaccinator is attached.	Average Number of Vaccinators attached to Dispensaries during the Season.	Total Number of Persons Vaccinated.			Average Number of Persons Vaccinated by each Vaccinator.	Primary Vaccination.				Revaccination.		Percentage of Successful Cases.	
							Total.	Successful.			Total.	Successful.	Primary.	Revaccination.
								Under 1 year.	1 and under 6.	Total of all Ages.				
1	2	3	4			5	6	7	8	9	10	11	12	13
THE SOUTHERN DECCAN REGISTRATION DISTRICT—*continued.*			Males.	Females.	Total.									
Belgaum Collectorate.														
Parasgad	..	..	P. 74	67	141	142	141	89	51	141	1	..	100·	..
			R. ..	1	1									
Gokák	..	..	160	141	301	301	301	170	109	281	..	..	93·36	..
Athni	..	..	97	77	174	174	174	105	49	154	..	..	88·81	..
Total	..	..	P. 331	285	616	206	616	364	209	576	1	..	93·51	..
			R. ..	1	1									
Kaládgi Collectorate.														
Kaládgi Jail	..	..	P. 4	2	6	74	6	1	5	6	68	65	100·	95·59
			R. 55	13	68									
Bágevádi	..	..	49	32	81	81	81	49	19	69	..	..	85·19	...
Ilkal	..	..	36	30	66	66	66	33	10	43	..	..	65·15	..
Bijápur	..	..	P. 61	58	119	120	121	82	31	113	1	..	94·96	..
			R. 1	..	1									
Muddebihál	..	..	27	20	47	47	47	28	11	41	..	..	87·23	..
Total	..	..	P. 177	142	319	78	321	193	76	272	69	65	85·27	94·20
			R. 56	13	69									
Kolhápur State.														
Malkápur	..	..	52	31	83	83	85	16	67	83	..	..	100·	..
Kolhápur	..	..	P. 448	402	850	1,059	850	681	126	807	209	201	94·94	96·17
			R. 145	64	209									
Gad Hinglaj	..	..	P. 76	50	126	130	126	87	25	113	4	3	89·67	75·00
			R. 3	1	4									
Total	..	..	P. 576	483	1,059	424	1,061	784	218	1,003	213	204	94·71	95·77
			R. 148	65	213									
Southern Marátha Jaghire.														
Sángli	..	..	98	113	211	211	211	179	27	206	..	..	97·63	..
Sháhpur	..	..	P. 34	40	74	78	75	30	28	58	4	2	78·38	50·00
			R. 2	2	4									
Mudhol	..	..	P. 79	80	159	160	159	100	57	157	1	1	98·74	100·
			R. 1	..	1									
Miraj	..	..	67	49	116	116	116	74	32	106	..	..	91·38	..
Mangalvedha	..	..	52	50	102	102	102	73	13	88	..	..	86·27	..
Terdál	..	..	31	52	83	83	83	25	55	80	..	..	96·39	..
Shirhatti	..	..	17	15	32	32	32	24	6	30	..	..	93·75	..
Koochi	..	..	47	34	81	81	82	33	35	69	..	..	85·19	..
Rámdurg	..	..	14	10	24	24	24	10	9	21	..	..	87·50	..
Total	..	..	P. 439	443	882	99	886	548	262	815	5	3	92·40	60·00
			R. 3	2	5									
Native States, Total	..	..	P. 1,015	926	1,941	180	1,947	1,332	480	1,818	218	207	93·66	94·95
			R. 151	67	218									
Total for the Southern Deccan Registration District	..	..	P. 2,196	1,941	4,137	164	4,151	2,746	1,095	3,866	291	275	93·45	94·50
			R. 210	81	291									
THE KONKAN REGISTRATION DISTRICT.														
Kánara Collectorate.														
Kárwár	..	..	P. 130	95	225	233	228	66	102	200	8	6	88·89	75·00
			R. 7	1	8									
Kumta	..	..	P. 135	98	233	242	233	99	104	203	9	5	87·12	55·56
			R. 4	5	9									
Honávar	..	..	P. 81	101	182	189	182	10	93	178	7	7	97·80	100·
			R. 4	3	7									
Sirsi	..	..	45	64	109	109	109	56	45	102	..	..	93·58	..
Siddápur	..	..	30	34	64	64	64	2	51	64	..	..	100·	..
Yellápur	..	..	27	18	45	45	45	..	4	16	..	..	35·56	..
Haliyál	..	..	92	85	177	177	177	111	53	164	..	..	92·66	..
Supa	..	..	15	14	29	29	29	9	16	25	..	..	86·21	..
Mundgod	..	..	18	18	36	36	36	23	11	34	..	..	94·44	..
Total	..	..	P. 573	527	1,100	125	1,103	376	479	986	24	18	89·64	75·00
			R. 15	9	24									
Ratnágiri Collectorate.														
Dápoli	..	..	P. 61	77	138	143	142	68	64	133	5	1	96·38	20·00
			R. 4	1	5									
Vengurla	..	..	P. 75	76	151	152	151	35	81	123	1	..	81·46	..
			R. ..	1	1									
Total	..	..	P. 136	153	289	147	293	103	145	256	6	1	88·58	16·67
			R 4	2	6									
Kolába Collectorate.														
Alíbág	..	..	P. 26	10	36	37	36	11	21	32	1	1	88·89	100·
			R. ..	1	1									
Pen	..	..	P. 57	52	109	110	109	63	34	98	1	1	89·91	100·
			R. 1	..	1									
Mahád	..	..	58	57	115	115	115	33	72	107	..	..	93·04	..
Total	..	..	P. 141	119	260	87	260	107	127	237	2	2	91·15	100·
			R. 1	1	2									

Statement No. III. showing Dispensary Vaccination, &c.—*continued.*

Districts.		Number of Dispensaries in each District to which a Vaccinator is attached.	Average Number of Vaccinators attached to Dispensaries during the Season.	Total Number of Persons Vaccinated			Average Number of Persons Vaccinated by each Vaccinator.	Primary Vaccination.				Revaccination.		Percentage of Successful Cases.	
								Total.	Successful.			Total.	Successful.	Primary.	Revaccination.
									Under 1 year.	1 and under 6.	Total of all Ages.				
1		2	3	4			5	6	7	8	9	10	11	12	13
	THE KONKAN REGISTRATION DISTRICT—*continued.*			Males.	Females.	Total.									
Thána Collectorate.	Uran	..	..	6	..	6	6	6	3	1	6	..	..	100·	..
	Thána	..	..	P. 13	6	19	21	19	13	6	19	2	1	100·	50·00
				R. 2	..	2									
	Kalyán	..	..	P. 70	71	141	142	141	63	67	132	1	1	93·62	100·
				R. 1	..	1									
	Bándra	..	..	P. 267	254	521	529	523	164	341	513	8	2	98·46	25·00
				R. 8	..	8									
	Bhiwndi	..	..	83	57	140	140	140	46	82	128	..	..	91·42	..
	Chinchni	..	..	53	58	111	111	111	43	50	94	..	..	84·68	..
	Kurla	..	..	93	70	163	163	163	89	63	152	..	..	93·25	..
	Bassein	..	..	46	46	92	92	92	42	30	72	..	..	78·26	..
	Máhím	..	..	P. 127	105	232	234	252	116	106	226	2	1	97·41	50·00
				R. 2	..	2									
	Mátheráń	..	..	30	19	49	49	49	20	28	48	..	..	97·96	..
	Sháhápur	..	..	P. 30	31	61	64	61	16	40	61	3	1	100·	33·33
				R. ..	3	3									
	Total	..	..	P. 818	717	1,535	141	1,557	615	814	1,451	16	6	94·53	37·50
				R. 13	3	16									
Native State.	Sávantvádi State	..	..	P. 30	64	144	159	146	72	67	143	15	2	99·31	13·33
				R. 12	3	15									
	Total for the Konkan Registration District	..	..	P. 1,748	1,580	3,328	130	3,359	1,273	1,632	3,073	63	29	92·34	46·03
				R. 45	18	63									
	THE EASTERN GUJARA'T REGISTRATION DISTRICT.														
Surat Collectorate.	Olpád	..	..	21	19	40	40	40	24	13	37	..	..	92·50	..
	Ránder	..	..	48	54	102	102	102	66	22	89	..	..	85·25	..
	Bárdoli	..	..	37	34	71	71	71	50	18	68	..	..	95·77	..
	Mándvi	..	..	28	24	52	52	52	22	30	52	..	..	100·	..
	Chikhli	..	..	14	15	29	29	29	26	3	29	..	..	100·	..
	Bulsár	..	..	P. 182	160	342	350	342	96	229	328	8	1	95·91	12·50
				R. 5	3	8									
	Párdi	..	..	39	35	74	74	74	51	23	74	..	..	100·	..
	Kálliawari	..	..	24	40	64	64	64	25	39	64	..	..	100·	..
	Total	..	..	P. 393	381	774	98	774	360	377	741	8	1	95·74	12·50
				R. 5	3	8									
Broach Collectorate.	Anklesvar	..	..	135	78	213	213	217	104	99	204	..	..	95·77	..
	Hánsot	..	..	39	36	75	75	75	33	30	63	..	..	84·00	..
	Iláv	..	..	32	29	61	61	62	35	21	58	..	..	95·08	..
	Jambusar	..	..	60	67	127	127	127	48	64	112	..	..	88·19	..
	Total	..	..	266	210	476	119	481	220	214	437	..	..	91·81	..
Kaira Collectorate.	Dákor	..	..	P. 82	71	153	158	153	120	30	152	5	3	99·35	60·00
				R. 5	..	5									
	Kapadvanj	..	..	182	136	318	318	318	250	48	298	..	..	93·71	..
	Borsad	..	..	130	93	223	223	223	161	46	207	..	..	92·83	..
	Mehmadabad	..	..	P. 143	144	287	329	304	265	5	271	42	23	94·43	54·76
				R. 42	..	42									
	Mahudha	..	..	87	83	170	170	170	83	66	149	..	..	87·65	..
	Kaira Jail	..	..	129	6	135	135	135	..	4	4	..	..	2·96	..
	Total	..	..	P. 753	533	1,286	222	1,303	879	199	1,081	47	26	84·06	55·32
				R. 47	..	47									

Statement No. III. showing Dispensary Vaccination, &c.—*continued.*

Districts.		Number of Dispensaries in each District to which a Vaccinator is attached.	Average Number of Vaccinators attached to Dispensaries during the Season.	Total Number of Persons Vaccinated.			Average Number of Persons Vaccinated by each Vaccinator.	Primary Vaccination.				Revaccination.		Percentage of Successful Cases.	
								Total.	Successful.			Total.	Successful.	Primary.	Revaccination.
									Under 1 year.	1 and under 6.	Total of all Ages.				
1		2	3	4			5	6	7	8	9	10	11	12	13
	THE EASTERN GUJARA'T REGISTRATION DISTRICT—*continued.*			Males.	Females.	Total.									
Panch Mahals.	Godhra	..	..	P. 148 R. 55	127 ..	275 55	330	275	229	39	268	55	24	97·45	43·64
Ahmedabad Collectorate.	Dholera	..	..	P. 75 R. 1	71 ..	146 1	147	153	84	41	125	1	1	85·62	100·
	Sánand	..	..	P. 89 R. 5	78 5	167 10	177	175	131	21	152	10	10	91·02	100·
	Parántij	..	..	160	126	286	286	286	219	67	286	..	..	100·	..
	Khárághoda	..	..	24	25	49	49	49	21	10	34	..	..	69·39	..
	Total ..	..	..	P. 348 R. 6	300 5	648 11	165	663	455	139	597	11	11	92·13	100·
Mahi Kántha Agency.	Sádra	..	..	P. 65 R. 11	61 ..	126 11	137	134	74	7	81	11	..	64·29	..
	TOTAL FOR THE EASTERN GUJARA'T REGISTRATION DISTRICT	..	..	P. 1,973 R. 124	1,612 8	3,585 132	155	3,630	2,217	975	3,205	132	62	89·40	46·97
	THE WESTERN GUJARA'T CIRCLE.														
Káthiáwár.	Wadhwán	..	..	P. 43 R. 6	27 ..	70 6	76	74	38	19	57	6	5	81·43	83·33
	Songad	..	..	3	5	8	8	8	2	6	8	..	..	100·	..
	Mánekváda	..	..	14	14	28	28	28	21	7	28	..	..	100·	..
	Rájkot	..	..	R. 80	6	86	86	..	..	..	..	86	30	....	34·88
	Total ..	..	..	P. 60 R. 86	46 6	106 92	49	110	61	32	93	92	35	87·74	38·04
Native States.	Gondal	..	..	P. 169 R. 1	185 ..	354 1	355	354	283	71	354	1	1	100·	100·
	Upleta	..	..	96	57	153	153	153	99	54	153	..	..	100·	100·
	Bháyávadar	..	..	P. 74 R. 1	69 1	143 2	145	143	105	35	140	2	1	97·90	50·00
	Limbdi	..	..	P. 158 R. 4	142 1	300 5	305	300	241	28	269	5	2	89·66	40·00
	Sársai	..	..	19	24	43	43	43	24	19	43	..	..	100·	..
	Total ..	..	..	P. 516 R. 6	477 2	993 8	200	993	752	207	959	8	4	96·58	50·00
	TOTAL FOR THE WESTERN GUJARA'T CIRCLE	..	..	P. 576 R. 92	523 8	1,099 100	133	1,103	813	239	1,052	100	39	95·72	39·00
	THE SIND REGISTRATION DISTRICT.														
Karáchi Collectorate.	Keti Bandar	..	..	24	29	53	53	56	21	21	46	..	..	86·79	..
	Mirpur Batoro	..	..	P. 53 R. 14	36 ..	89 14	103	89	54	24	78	14	13	87·64	92·86
	Tatta	..	..	P. 95 R. 10	62 2	157 12	169	157	22	119	143	12	3	91·08	25·00
	Jerruck	..	..	P. 26 R. 5	25 2	51 7	58	52	32	8	41	7	5	80·39	71·43
	Bhulakhan	..	..	9	3	12	12	12	6	2	8	..	..	66·67	..
	Sehwan	..	..	P. 45 R. 57	30 8	75 65	140	75	39	17	70	65	17	93·33	26·15
	Total ..	..	..	P. 252 R. 86	185 12	437 98	89	441	174	191	386	98	33	88·33	33·78
Hyderabad Collectorate.	Thárú Sháh	..	..	P. 35 R. 19	37 ..	72 19	91	72	52	14	66	19	15	91·67	78·95
	Hála	..	..	P. 60 R. 14	88 ..	148 14	162	152	59	87	147	14	7	99·32	50·00
	Alahyar-jo-Tando	..	..	P. 66 R. 6	53 ..	119 6	125	122	45	55	100	3	3	84·03	50·00
	Tando	..	..	45	40	85	85	85	38	33	71	..	..	83·53	..
	Tando Bago	..	..	P. 8 R. 55	11 ..	19 55	74	19	11	6	17	55	26	89·47	47·27
	Tando Adam	..	..	P. 108 R. 13	73 ..	181 13	194	181	41	117	158	13	10	87·29	76·92
	Mirpur Khás	..	..	P. 8 R. 1	3 1	11 2	13	11	6	3	9	2	2	81·82	100·
	Total ..	..	..	P. 330 R. 108	305 1	635 109	106	642	252	315	568	111	63	89·45	57·80

Statement No. III. showing Dispensary Vaccination, &c.—*continued.*

	Districts.	Number of Dispensaries in each District to which a Vaccinator is attached.	Average Number of Vaccinators attached to Dispensaries during the Season.	Total Number of Persons Vaccinated.			Average Number of Persons Vaccinated by each Vaccinator.	Primary Vaccination,				Revaccination.		Percentage of Successful Cases.	
								Total.	Successful.			Total.	Successful.	Primary.	Revaccination.
									Under 1 year.	1 and under 6.	Total of all Ages.				
1		2	3	4			5	6	7	8	9	10	11	12	13
	THE SIND REGISTRATION DISTRICT—*continued.*			Males.	Females	Total.									
Thar and Párkar.	Nagar Párkar	..	..	P. 57, R. 35	37	94, 35	129	98	51	29	80	42	18	85·11	51·43
	Mitti	..	..	15	18	33	33	33	30	2	32	..	..	96·97	..
	Umarkot	..	..	101	64	165	165	165	105	35	140	..	..	84·85	..
	Khipra	..	..	27	31	58	58	58	47	8	56	..	..	96·55	..
	Total	..	..	P. 200, R. 35	150	350, 35	96	354	233	74	308	42	18	88·00	51·43
Shikárpur Collectorate.	Rohri	..	..	P. 184, R. 745	150, 829	334, 1,574	1,908	334	322	12	334	1,574	1,332	100·	84·62
	Mehar	..	..	P. 41, R. 5	21, ..	62, 5	67	65	44	13	57	5	5	91·93	100·
	Total	..	..	P. 225, R. 750	171, 829	396, 1,579	987	399	366	25	391	1,579	1,337	98·74	84·67
Mekran Coast.	Guadar	..	..	P. 181, R. 19	187, 7	368, 26	394	377	13	100	267	26	13	72·55	50·00
	Total for the Sind Registration District	..	..	P. 1,188, R. 998	998, 849	2,186, 1,847	202	2,213	1,038	705	1,920	1,856	1,469	87·83	79·53
	THE BARODA CIRCLE.														
Native States.	Pelland	..	..	34	29	63	63	63	59	4	63	..	..	100·	..
	Sojitra	..	..	173	114	287	287	287	214	73	287	..	..	100·	..
	Dabhoi	..	..	37	34	71	71	71	52	16	68	..	..	95·77	..
	Pádra	..	..	91	92	183	183	183	142	22	165	..	..	90·16	..
	Sinor	..	..	10	13	23	23	23	20	1	21	..	..	91·30	..
	Pátan	..	..	175	153	328	328	328	291	5	296	..	..	90·24	..
	Degám	..	..	109	137	246	246	246	177	58	236	..	..	95·93	..
	Visnagar	..	..	84	58	142	142	143	118	13	131	..	..	92·25	..
	Vadnagar	..	..	P. 141, R. 1	125, ..	266, 1	267	276	167	96	263	1	1	98·87	100·
	Bijápur	..	..	123	129	252	252	252	162	89	252	..	..	100.	..
	Deesa	..	..	7	5	12	12	12	7	5	12	..	..	100·	..
	Gandevi	..	..	92	74	166	166	170	121	29	150	..	..	90·36	..
	Songad	..	..	38	34	72	72	72	48	20	70	..	..	97·22	..
	Amreli	..	..	255	154	409	409	409	339	70	409	..	..	100·	..
	Okhá Battalion	..	..	22	3	25	25	25	5	13	18	..	..	72·00	..
	Kodinár	..	..	9	6	15	15	15	13	2	15	..	..	100·	..
	Dámnagar	..	..	9	12	21	21	21	11	10	21	..	..	100·	..
	Dhári	..	..	65	45	110	110	110	82	25	110	..	..	100·	..
	Mánekváda	..	..	15	3	18	18	18	4	14	18	..	..	100·	..
	Kadi	..	..	61	51	112	112	112	89	16	105	..	..	93·75	..
	Mesána	..	..	67	64	131	131	131	102	29	131	..	..	100.	..
	Sidhpur	..	..	17	14	31	31	31	15	16	31	..	..	100·	..
	Sádra	..	..	8	17	25	25	25	18	7	25	..	..	100·	..
	Vyára	..	..	10	9	19	19	19	17	2	19	..	..	100·	..
	Dwárka	..	..	70	78	148	148	148	33	90	137	..	..	92·57	..
	Total for the Baroda Circle	..	..	P. 1,722, R. 1	1,453, ..	3,175, 1	127	3,186	2,306	725	3,053	1	1	96·16	100·
	BASSADORE	..	..	64	60	124	124	125	1	17	106	..	..	85·48	..
	ZANZIBAR	..	..	P. 106, R. 1	131, 2	237, 3	240	251	18	26	203	3	3	65·85	100·
	MUSCAT	..	..	P. 227, R. 1	145, ..	372, 1	373	392	30	107	312	2	..	83·87	..
Total for the	British Territory	..	..	P. 8,502, R. 1,227	7,593, 895	16,095, 2,122	163	16,233	8,339	5,557	14,719	2,132	1,656	91·45	78·04
	Native States	..	..	P. 3,538, R. 276	3,099, 81	6,637, 357	143	6,668	4,730	1,528	6,290	357	258	94·77	72·27
	Grand Total for the Bombay Presidency	..	..	P. 12,040, R. 1,503	10,692, 976	22,732, 2,479	157	22,901	13,069	7,085	21,009	2,489	1,914	92·42	77·21

Comparative Statement No. IV. showing the Number of Persons Primarily Vaccinated and the Number of those Persons who were Successfully Vaccinated in each of the undermentioned official years.

Establishments.	Persons Primarily Vaccinated.																			
	Total Number.	Number Successfully Vaccinated.	Total Number.	Number Successfully Vaccinated.	Total Number.	Number Successfully Vaccinated.	Total Number.	Number Successfully Vaccinated.	Total Number.	Number Successfully Vaccinated.	Total Number.	Number Successfully Vaccinated.	Total Number.	Number Successfully Vaccinated.	Total Number.	Number Successfully Vaccinated.	Total Number.	Number Successfully Vaccinated.	Total Number.	Number Successfully Vaccinated.
	Years ended 31st March.																			
	1872.		1873.		1874.		1875.		1876.		1877.		1878.		1879.		1880.		1881.	
Government	79,022	73,398	3,446	3,012	3,208	2,867	4,517	4,365	4,706	4,552	5,518	5,346	5,472	5,317	4,630	4,444	3,374	3,220	4,130	3,980
Municipal	55,011	44,879	53,415	45,372	51,313	44,129	54,810	51,162	59,392	55,698	61,671	58,300	50,250	46,355	42,211	39,129	48,318	45,069	49,857	47,361
Local Fund	221,483	208,413	309,666	283,655	357,162	326,852	377,558	361,689	375,202	364,503	394,775	382,211	340,998	326,670	304,420	292,640	322,871	312,124	347,194	337,392
Cantonment	*	*	*	*	1,103	999	969	906	1,018	965	827	771	845	804	872	846	939	939	967	967
Native State	152,213	142,039	180,314	163,891	188,788	171,657	209,689	195,729	224,730	211,316	242,391	226,402	246,773	228,333	188,447	174,757	188,196	175,979	213,411	202,210
Dispensary	13,792	11,998	16,685	14,652	18,560	16,403	19,393	17,463	19,954	18,156	19,996	18,486	20,201	17,904	17,887	16,233	19,119	17,406	22,732	21,009
Army — European	1,080	1,080	1,517	1,517	1,122	1,122	728	728	825	825	1,973	1,973	1,313	1,313	494	453	635	604	659	610
Army — Native	4,552	4,211	4,982	4,627	4,562	4,246	4,153	3,940	4,812	4,541	5,033	4,659	4,203	3,920	3,008	2,719	3,049	2,499	3,555	2,984
Total	527,153	486,018	570,025	516,726	625,818	568,275	671,817	635,982	690,639	666,556	732,184	698,148	670,055	630,590	561,969	531,221	586,501	557,840	642,605	616,513

Note.—Revaccinations are wholly excluded from this Statement.

* The figures are included in those for the Native Army.

GENERAL DEPARTMENT.

No. 2452.

Bombay Castle, 28th July 1881.

Letter from the Acting Sanitary Commissioner for the Government of Bombay, No. 1863-B., dated 25th June 1881—Submitting Mr. Lumsdaine's Report of the Sanitary Department for the year 1880.

RESOLUTION.—The Administration Report of the Sanitary Commissioner for the year 1880, prepared by Mr. Lumsdaine and submitted by his *locum tenens* Mr. Hewlett, C.I.E., was received by Government on 25th June, or considerably earlier than the report has been received for some years past.

SECTION I.—*General Population and Vital Statistics.*

2. The number of births recorded among the civil population in 1880 was 370,873, or a ratio of 22·85 per mille of population. The registered total exceeded that for 1879 by 83,003, and was 25,389 in excess of the number recorded in any year since 1871, when the registration of births first commenced. In 21 out of 24 districts the number of births registered exceeded the annual mean for the past 9 years. The exceptions were Sholápur, Kaládgi, and Ratnágiri. Government are glad to notice a striking improvement in all the districts of Sind, particularly in Karáchi and Thar and Párkar. The highest recorded birth-rate in any district is in the Panch Maháls, where it is 33·10, against 10·25 per mille for 1879. Next come Kánara, Násik, Kaira, and Sátára, in all of which a birth-rate exceeding 30 per mille is recorded. The lowest rates are in Shikárpur (10·96), Hyderabad (10·60), and the Upper Sind Frontier (8·16); but, with the exception of the last named district, even these ratios show a marked improvement over those for the previous year, when they were for Shikárpur 5·00 and for Hyderabad 5·47. Excepting in the districts given in the margin, the recorded birth-rate was throughout the Presidency higher than the recorded death-rate. For the whole Presidency taken together, the birth-rate is also higher than the death-rate, a result which has never been obtained before, excepting in the year 1874. These facts undoubtedly point to an improvement in the registration of vital statistics, which Government note as a satisfactory indication that their repeated orders on the subject have been receiving attention. It is strange, however, to observe that the recorded birth-rate in the 24 large towns mentioned in para. 12 of the report is below that for the Presidency at large. This phenomenon has been commented on before, and shows how defective registration is in those very areas in which some degree of perfection might be expected.

Sholápur.
Kaládgi.
Ratnágiri.
Bombay City.
Broach.
Ahmedabad.

3. The total number of deaths registered in 1880 was 328,673, of which 176,817 were males and 151,856 were females. The recorded death-rate was 20·25 per mille as against 23·88 per mille in 1879. The largest number of deaths recorded in any district was in Ahmedabad, where the number was 24,539, but the highest ratio, 32·39 per mille, was in Bombay City. The five districts of Sind come lowest on the scale—Karáchi recording a death-rate of 15·00 per mille, and the Upper Sind Frontier only 6·95 per mille, as compared with 15·24 per mille recorded in Sholápur, the lowest in the list of the Presidency proper. Death registration is very defective in Poona as well as in Sholápur, and that without any apparent reason. The districts of Gujarát, except the Panch Maháls, take a high place. The maximum death-rate in any one month for the whole Presidency, including Sind, was 1·98 per mille in January. The death-rate in November, the unhealthiest month of the preceding year, was 1·76 in the year under review. In all the districts of Gujarát, however, excepting Ahmedabad, the month of highest death-rate in 1880 was November. In the districts of Sind, excepting Karáchi, February was the most fatal month. In the Deccan, Konkan,

and Southern Marátha Country, the results are capricious, no one month or season appearing to be markedly more unhealthy than another. The mortality among infants under one year of age was at the rate of 94·55 per 1,000 as compared with 76·13 per 1,000 in 1879. The maximum was in Bombay City, where the deaths at this age were no less than 530·22 per 1,000. No other district shows a mortality approaching this, though in several it amounts to more than 100 per mille. The deaths among people of 60 years old and upwards were at the rate of 89·43 as against 119·60 per mille in 1879. The period of greatest immunity was that "above 6 and under 12," when the rate was only 7·71 per mille. The ratio of deaths by caste or class is shown below :—

	Per Mille.	
	1880.	1879.
Mahomedans	15·00	18·10
Hindus	21·40	25·13
Christians	21·00	24·60
Others	19·11	23·72

Section II.—*History of Chief Diseases.*

4. The number of deaths under each division of this section and the ratio per mille of living population are shown in the following table :—

Disease or Injury.	Number of Deaths.	Ratio of Deaths to 1,000 of Population.
Cholera	684	0·04
Small-pox	940	0·06
Fever	246,779	15·21
Bowel complaints	24,452	1·51
Injuries	6,082	0·37

Of the deaths enumerated in the above table as caused by injuries or the principal endemic or epidemic diseases of the Presidency, it appears that 88·47 were due to fever, 8·76 to bowel complaints, and no more than ·05 to both cholera and small-pox together. The year was one of immunity from cholera, such as has not been known since 1874. During the past 15 years there are only two, viz., 1873 and 1874, in which the deaths from cholera have been less than in 1880, and the annual mean for the previous 14 years being 21,565 deaths, it is seen that the numbers in 1880 were only $\frac{1}{31}$ of the normal amount. Of the total 684 deaths, 635, or 92 per cent., occurred in the cold season, or what is conventionally known as such, beginning with December and ending with March. 461 of the 684 deaths, or 67 per cent., occurred in the Poona District; 70, or 10 per cent., in Thána; 55, or 8 per cent., in Násik; 30, or 4 per cent., in Bombay City; 27, or 3 per cent., in Kolába, leaving only 41 to be divided over the whole of the rest of the Presidency. Many districts enjoyed a complete immunity from the disease, and in only one (Ahmednagar), besides those named above, did the number of deaths exceed 4.

The year under review was also marked by unusual freedom from small-pox. The mean annual number of deaths from this disease during the preceding 14 years was 10,233, while the total deaths in 1880 were only 940. Of these 400 occurred in Shikárpur, and 618 in the entire Province of Sind, where the disease has been epidemic. In the Konkan there were 308 deaths, making, with those that occurred in Sind, a total of 926 out of the entire 940, leaving, therefore, only 14 to be spread over the rest of the Presidency. It may be said

that the Deccan, Southern Marátha Country (or, to use the terms of the report, the Northern Deccan and Southern Deccan) and Gujarát were wholly free from small-pox during 1880.

The deaths from fever, though numbering 246,779, were less by 39,747 than those that occurred, or, it would be more correct to say, were registered, in 1879. In 6 districts only out of 24, viz., Khándesh, Poona, Kolába, Thána, Panch Maháls, and Thar and Párkar, was there an increase over the number of deaths recorded in the previous year. The highest number of deaths in any one district, viz., 20,546, was in Ahmedabad; but the highest death-rate was in Broach, 27·03 per mille, and Kaira 26·16 per mille. In Ahmedabad it was 24·77 per mille. By divisions also the maximum ratio of mortality, 23·61, was in Gujarát, while the lowest, 8·63, was in Sind. Though the returns for 1880 show a decided diminution of fever as compared with 1879, yet the number of deaths, 246,779, is far in excess of the mean, 193,508, of the previous 14 years. In Gujarát, Khándesh, and the Konkan Districts of Thána, Kolába, and Ratnágiri, the mean number of deaths was much exceeded in 1880. As might have been expected, the cold and rainy seasons were the most unhealthy.

The deaths from bowel complaints in 1880, 24,452 in number, were less by 1,897 than those in 1879, and by 5,917 than the mean annual number during the previous 14 years. The greatest number of deaths was in the rainy season, and the minimum in "the hot and dry" season, *i.e.*, the months of April and May.

The following table summarizes the deaths by injuries under each of the given heads:—

	1880.	1879.
Drowning	2,869	3,739
Poisoning	94	93
Hanging	238	264
Wounding	359	359
Wild beasts	143	134
Snake-bite	1,179	1,044
Other causes	1,200	1,474
Total ...	6,082	7,107

The only increase, as compared with 1879, is under the head of snake-bite. The attention of Government has been for some time closely directed to the means of mitigating the mortality from this cause; but the subject is a very difficult one to deal with. From the table at paragraph 116 of the report it is seen that cases of snake-bite are always most frequent in the rainy season. This seems invariably the case. There were 812 suicidal deaths in 1880 as against 1,022 in 1879, two-thirds of which, or 521, were by drowning and 216 by hanging. Of the total number of deaths by drowning, viz., 2,869, 1,592 occurred in wells. Deaths from suicidal wounding were 25, and from accidental wounding 191.

SECTION III.— *General History of Vaccination.*

5. It appears that any delays that take place in the submission of his Administration Report by the Sanitary Commissioner are due to the vaccination returns, which being prepared for the Financial, and not the Calendar, year are seldom received before the end of April. Several changes in the personnel of the superior officers of the Department took place in 1880-81, which are detailed at paragraph 122 of the report. The number of vaccinators was 431 as against 420 in the previous year.

6. There were 642,505 primary vaccinations and 62,479 re-vaccinations in 1880-81 as compared with 586,501 and 63,122, respectively, in 1879-80, which shows an increase of 9·55 under the former and a decrease of 1·02 per cent. under the latter head. Out of 315,780 births registered in British districts—

deaths being deducted—247,949 children were successfully vaccinated, *i.e.*, 78·52 per cent. of infants available for vaccination were protected. The total number of primary operations, though exceeding that for the two preceding years, was less than that for each of the four years 1874-75, 1875-76, 1876-77 and 1877-78. Of the 642,505 primary vaccinations 616,513, or 95·95 per cent., were successful, the percentage of success in the previous year having been 95·11 or somewhat less. Among cases of re-vaccination the percentage of success was 72·79 as against 71·98 in 1879-80. Taking both operations together, the percentage of success during the year under review was higher than it has ever been before. The caste or creed of persons primarily vaccinated in 1880-81 is shown below :—

Hindus	487,958
Musalmáns	109,674
Christians	4,137
Pársis	1,916
Other castes	38,820

The total number of infants successfully vaccinated was 382,809, of children between 1 and 6 years 214,100, and of persons of other ages 19,604. Six consignments of lymph were received during the year, of which four were sent to Aden direct, and the remaining two to Bombay. A considerable portion appears to have been ineffectual. Animal vaccination was carried on in Bombay, Poona, and Karáchi. 456 heifers were successfully inoculated, and there were 14 cases of failure. In Karáchi inoculation of heifers was stopped in April 1880 owing to the opposition of the Hindu community. It seems strange that a measure which can be successfully introduced in Bombay and Poona should be impossible of introduction in Karáchi. The total expenditure on account of vaccination was Rs. 2,37,139 as against Rs. 2,42,635 in the previous year, showing a decrease of Rs. 5,496. The average cost for each successful case was annas 6, or 8 pies less than in 1879-80. The work done by the Deputy Sanitary Commissioners deserves the thanks and commendation of Government, and the Inspectors and Assistant Superintendents appear to have discharged their duties in a satisfactory manner. The attention of Collectors is requested to the review of the vaccinating operations in each district contained in pages 70 to 81 of the report; and endeavours should be made to supply additional vaccinators wherever they are said to be required.

Section IV.—*Sanitary Works—Military.*

6. The outlay on Sanitary Works—Military—in 1880 amounted to Rs. 1,40,691, of which Rs. 61,700, or 43 per cent., were spent at Aden on enlarging the Military prison, constructing a recreation room for British Troops, &c. More than Rs. 16,000 each were spent at Mhow and Ahmedabad, and smaller sums at other stations. It is unnecessary for Government in this Department to review with any minuteness the returns under this section.

Section V.—*Sanitary Works—Civil.*

7. This section consists of memoranda from 120 Municipalities and 46 Local Fund circles, showing their condition with regard to water-supply, drainage, &c. It is not possible to give a summary of them; but the returns show that in the 120 Municipalities Rs. 5,49,014, and in the 46 Local Fund circles, Rs. 1,15,783 were spent in the year 1879-80 on "conservancy." Differences of opinion as to what is, and what is not, conservancy, probably render this return of doubtful value. In reviewing the Municipal Administration Reports for 1879-80, it was found (*vide* paragraph 13, Government Resolution No. 1770 of 4th ultimo,) that on "conservancy and cleansing" Rs. 4,63,682 had been spent in the 160 Municipalities of the Presidency, or Rs. 85,000 less than the sum shown in the Sanitary Commissioner's report, though the returns embraced 40 more Municipalities than the latter does.

Section VI.—*General Remarks.*

8. The first portion of this section is devoted to a consideration on the subject of the Tulsi water supply, its purity, and the best means of preventing waste. Mr. Lumsdaine's very clear and practical suggestions will no doubt receive due consideration at the hands of the Town Council and the Municipal Commissioner.

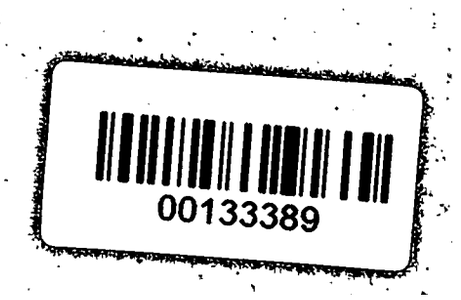
The prevention of waste in the use of water from the reservoirs that supply Bombay is an important matter requiring early and close attention. The memorandum by Mr. Lumsdaine on the Cantonment of Neemuch will be considered by Government in the Military Department. The Sanitary Commissioner's report concludes with a review of the results of the work of Assistant Surgeon DeSouza, Travelling Water Analyst of the Department, who has discharged his duties in a manner very creditable to him. Out of 180 samples of water examined 88 were found to be bad, 32 fair, and only 60 good. The Analyst's examination was principally directed to the water of Military Cantonments; but samples from the tank at Pandharpur, among others, were analysed, with very unsatisfactory results. Government are aware that measures are being taken to filter the water from this tank, which Mr. Lumsdaine reports to be the best thing that can be done, as the Municipality are precluded, by financial reasons, from taking up the entire catchment area. The improvement of the water-supply of Ahmedabad has engaged the attention of the Sanitary Commissioner, and his suggestions, with which his report concludes, have no doubt been carefully considered by the Municipality.

9. The best thanks of Government are due to Mr. Lumsdaine for his clear and able report, and for the energetic and efficient manner in which he has carried out his important duties during the year.

H. A. ACWORTH,
Acting Under Secretary to Government.

To

The Sanitary Commissioner.
The Surgeon General with the Government of Bombay.
The Military Department of the Secretariat.
The Judicial Department of the Secretariat.
The Revenue Department of the Secretariat.
The Political Department of the Secretariat.
The Public Works Department of the Secretariat.
The Commissioner in Sind.
The Commissioner, N. D.
The Commissioner, C. D.
The Commissioner, S. D.
All Collectors, including Collectors and Superintendents in Sind.
The Accountant General.
The Municipal Commissioner for the City of Bombay.
The Compiler, Bombay Gazetteer.
The Compiler, General Administration Report for 1880-81.
The Secretary of State. } By letter.
The Government of India. }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